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SECTION 1

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and ESSENTIAL OIL REVIEW

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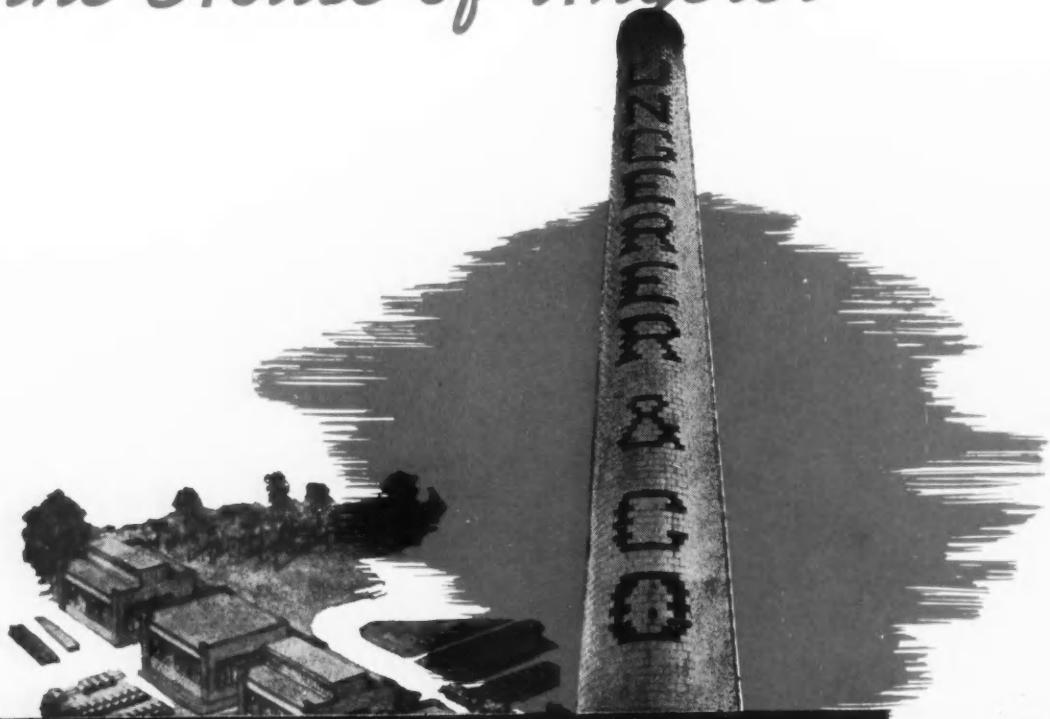
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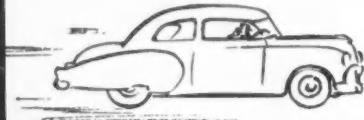


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the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

Established 1906

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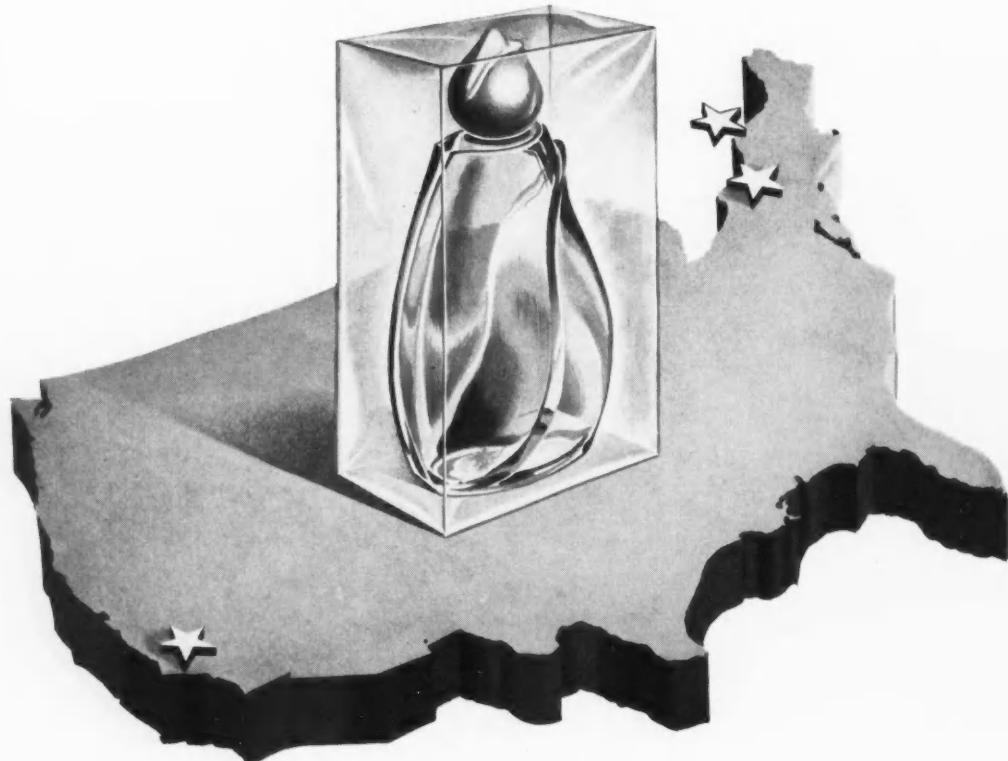
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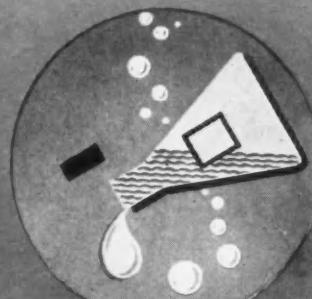
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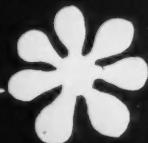
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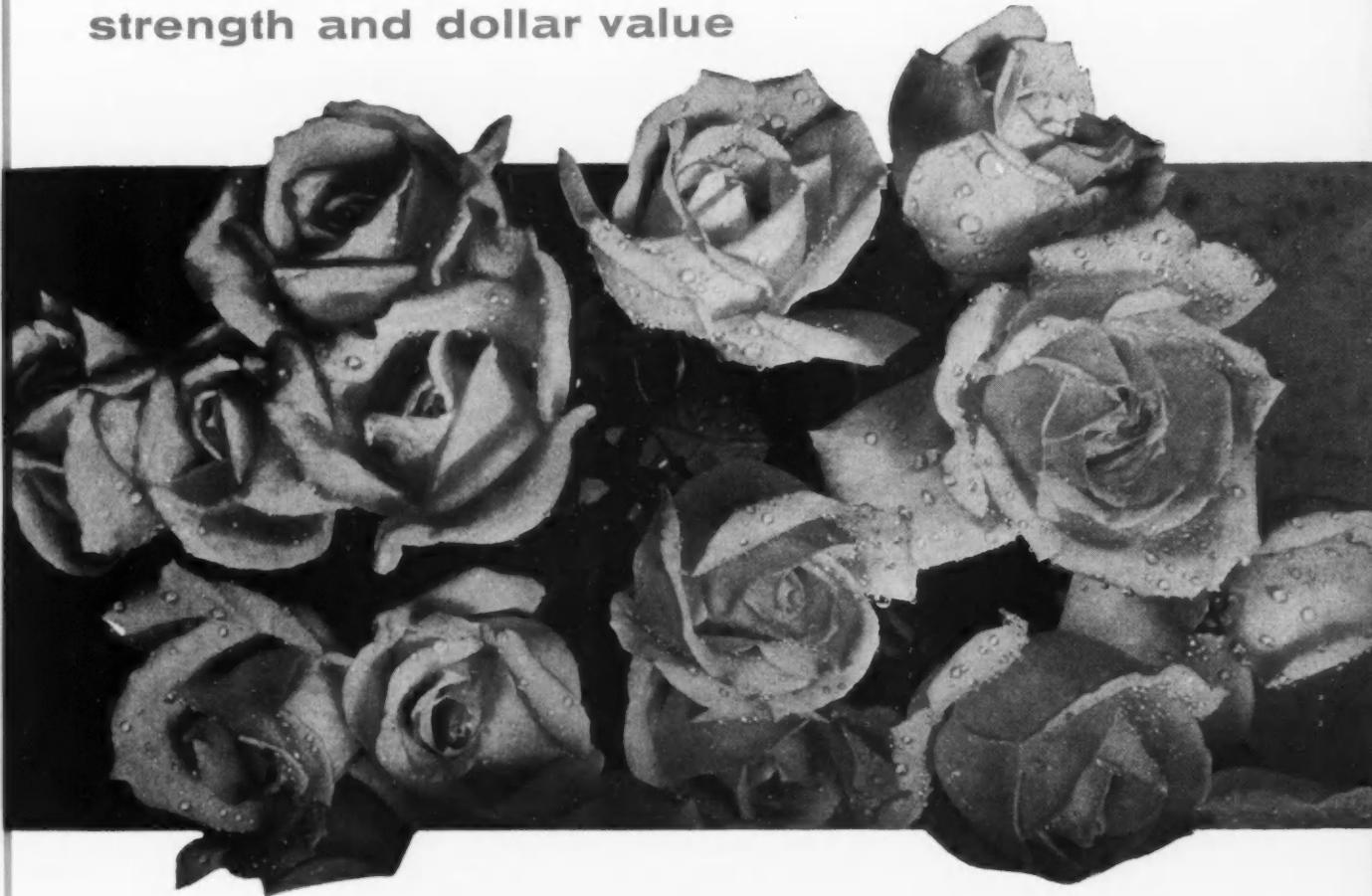
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Desiderata

BY MAISON G. DENAVARRE, F.A.I.C.

Antioxidants and Solvents, Etc.

The Hormel Institute reporting its year's activities, among other things completes a study on antioxidants. Pertinent portions are quoted.

"Twenty-eight spices were studied previously in an emulsion and the results reported in last year's Annual Report. The remaining seven spices have now been tested in the simple oil-in-water emulsion system. The samples containing cloves absorbed oxygen very slowly. In two separate experiments the antioxidant index (antioxidant index = stability of sample / stability of control) of this spice in the oil-in-water emulsion was 82 and 103. Other spices which effectively protected emulsions against oxidation are given with their antioxidant indexes: turmeric (29.6 and 15.9), allspice (16.7), mace (12.8), rosemary (11.4 and 10.2), nutmeg (9.2), cassia (8.7), ginger (8.7), cinnamon (8.4), savory (7.9), oregano (7.9), and sage (7.8 and 7.0). All the emulsions containing oregano and one containing turmeric (antioxidant index 15.9), separated into two phases during the tests. None of the spices was prooxygenic. The least protection was furnished by fenugreek with an antioxidant index of 1.7.

"Allspice, cloves, oregano, and sage have been added to a separating-type French dressing made of vinegar (42.5%), salt (5%), sugar (1%), spice (0.5%), and corn oil (51%). The stabilities of the samples have been determined by following the development of peroxides in the fat phase during storage at 37°C. and 63°C. The antioxidant indexes of the spices were nearly the same at both temperatures and their order of effectiveness was the same as in mayonnaise.

"Some additional work has been done on isolation of antioxidant from sage and oregano. Sage has yielded a fraction with an antioxidant index greater than 28 and oregano one with

an index greater than 16, both at 0.02% concentration using a micro-stability test. For comparison butylated hydroxyanisole has an antioxidant index of 10 at 0.02% using the same stability test."

In addition, work was started on a solvent for the best known antioxidants and part of this report is quoted.

"Studies were made on the solvent properties of the glyceryl ether fractions isolated from the unsaponifiable fraction of a number of fish oils for the antioxidant combination of NDGA, BHA, and citric acid.

"Selachyl alcohol was synthesized in varying degrees of purity and tested as a solvent for NDGA, BHA, and citric acid.

"Since selachyl alcohol occurs naturally, since it is odorless, colorless, and soluble in fats, and since it dissolves both antioxidants and synergists, it appears to be an ideal solvent for the incorporation of antioxidants in fat."

Syndets and Perfumes

It is a well known fact that certain syndets, such as some of the alkyl aryl sulfonates, affect odors. In truth, Flett and others have published data showing how certain alkyl aryl sulfonates deodorize or reduce odor intensity of fragrances.

Now, Matalon, speaking before the Seventh International Congress, in Paris in June, 1953, discusses a possible association between polar compounds used in perfumery and anionic detergents.

Alkyl aryl sulfonates are good foaming. So are alkyl sulfates. But in use,

both affect odor intensity. One cannot stress too much or too often, that adequate shelf test be made before adapting a specific fragrance in such a composition.

Some companies are offering perfumes in a solid solvent, which presumably is spray cooled and dried. These tiny bubbles are then incorporated into the product, thus keeping the perfume from coming in too close contact with the other materials. Perfume in this form can be used in any dry powdered product, even dental powders. Of course food products are a large prospect for solid flavors. If you are bent on research in this direction, try dry sorbitol or urea as solid solvents, which are melted, the perfume or flavor incorporated, then spray cooled.

Notes

As a side note, workers Lindsey, Cooper and Waller find that benzpyrene, a powerful cancer producer, is given off by both tobacco and paper used in cigarettes, when burned.... But worse yet, one can breathe in from the air about 200 micrograms per year in ordinary city air, as compared to 150 grams produced by forty cigarettes daily for the same period.... Answer to the titanium picture is still distant.... CHEMICAL WEEK states that red ink sales are down, a good index of business prosperity.... If you have been using distilled water, check into ion-exchanges this year—U.S.P. now approves such water for drug use....

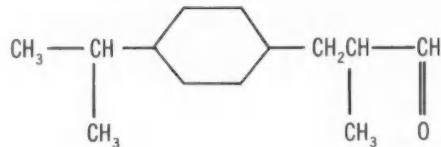
Lawrence Flett is going to retire this year—This department (and his many



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ASSAY:	93% minimum Aldehyde content.
ODOR TYPE:	Floral; Lily-of-the-Valley or Muguet.
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STABILITY:	Lasting in soaps, cosmetics and of a high quality which permits its use in the most expensive perfumes.
REFRACTIVE INDEX (n_{D}^{20}):	1.5055
SPECIFIC GRAVITY ($\frac{25}{25}$):	0.950
SUGGESTED USES:	As a base for Lily-of-the-Valley and Muguet perfumes to 5%; as a floral modifier from 1/4% to 5%.

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friends) wishes him relaxation, continued interest, good digestion-elimination and sleep, renewed friendships, completion of unfinished business and

a hope that he will be as active now as he always has been. His years, and I do mean years, of accumulated experience should not be allowed to waste.

Questions & Answers

1117: Cold Wave Lotion Formula

Q. Do you have any formulas to make up a creme cold wave lotion and a creme instant cold wave neutralizer? I will appreciate any data you may send me.

R. R., N. J.

A. We feel you should get both items from a private label supplier. Both are tricky and you can lose a lot by improper equipment or procedures.

1118: Cuts Lanolin Stickiness

Q. We noticed in "Desiderata" (June issue) which we followed with considerable interest, mention was made of oleyl alcohol being patented to be used along with lanolin to reduce its stickiness. If it is readily available, we would very much appreciate knowing the number of this patent. We also noticed mention of a new alkanolamide for thickening liquid cream shampoos that enables the incorporation of larger amounts of lanolin and would appreciate any further information you may have on that subject.

J. H. Fla.

A. The patent to which you refer is U. S. 2,661,316, a copy of which is available for 25 cents from the U. S. Patent Office. The name and the supplier of the new alkanolamide are sent to you by separate mail.

1119: Egg Oil, Soaproot

Q. We are a new company interested in "Egg oil," for a pure vegetable egg shampoo. Please send us a sample, C.O.D., of egg oil. We want to use soaproot as a base. Have you any suggestions how to mix in order to get high foaming and cleansing actions?

H. M., Mich.

A. Our magazine carries no samples of any product, but you can readily get a sample of egg oil from the Vio Bin Corp., Monticello, Ill. As for soaproot

as a shampoo base, offhand, our suggestion would be to make some kind of water or hydroalcoholic extract of the root and use this in your shampoo. We know of no shampoo based on this ingredient and are sorry to say that we have no knowledge of the extent of either the cleansing or foaming action of such a product. Soap bark or quillaja, contains a saponin which is sometimes added to or used as a shampoo. Poucher uses 4% saponin along with other ingredients in a dry shampoo. Soaproot or saponaria contains a saponin too, somewhat different from quillaja saponin, but which behaves similarly. The saponin of commerce is usually derived from quillaja so far as we know.

1120: Stabilizing Perfume

Q. Will you be so kind as to send us the name and address of one or two companies whose perfumes will be stable in synthetic detergents such as alkyl aryl and sodium lauryl sulfates? We use these together with general Dyesstuffs-Igepon T 77 and complex phosphates to make our bubble bath powder. After trying many samples, we have been unable to find any which will retain the fragrance after a short time. We want to use a perfume which will volatilize after the bubble bath powder is placed into the tub and hot or tepid water turned on. We want the pleasant aroma in the air in the bathroom and not to be lost in transit or storage. Otherwise, we see but little market potential in soft water areas for our product. If, however, we can find an aroma which is stable in polyethylene bags and bottles and will be released in warm water, we see great possibilities for our bubble bath. You may think this an unusual question but we would like to know if there is a perfume available in dry, pellet or coated granular form—one that is sealed in some way. We feel the phosphates could help seal this further or insulate or hold in the odor so there

would be less loss by dissipation or however it is lost when coming in contact with these synthetic detergents. As you can imagine this is a major problem with us and cannot be lightly brushed aside. Neither do we have the facilities or time to contact all perfume companies and test all their products. All we ask you to do is to send us the name of one or two companies who can provide the solution to our problem—namely providing a product which will be stable in the presence of synthetics and complex phosphates until placed in the bath tub. We believe you can help us out instead of letting us flounder around as we are now.

Y.O., New York

A. We think the principle problem with your bubble bath is the fact that a polyethylene container absorbs the fragrance leaving a residue which may sometimes be unpleasant. If you change to cellophane or laminated foil, we think your problem may be overcome. Some companies supply fragrances in spray dried beads. Suppliers names go separately. Alkyl aryl sulfates or sulfonates tend to deodorize some fragrances and this will further complicate your problem. Finally, you are probably using alkali phosphates and they, of course, are not too kind to fragrances. Therefore, another approach you might take is to tell your perfume supplier that your product does contain certain ingredients, give him the pH of the solution and he will, undoubtedly, give you something that will be stable in the product. From then on you will have to be sure that it is stable in polyethylene.

1121: Polish Remover

Q. Again, we should like to ask another question about polish remover. At present we use acetone and ethyl acetate and castor oil, but these solvents are very harmful and castor oil is very oily after application. In America what is used in polish removers? Please suggest solvents which are as strong but not as harmful as the above solvents, and oil which is not oily after application.

M.E.K., Japan

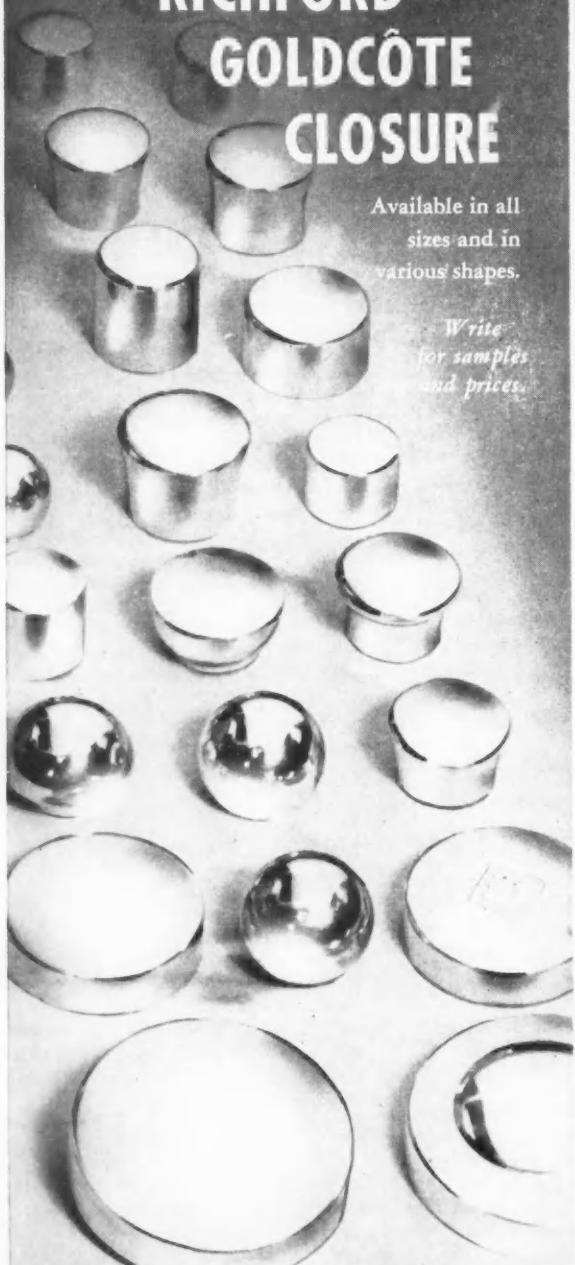
A. Methyl ethyl ketone, hydrocarbons, such as benzene or toluene along with ethyl or butyl acetate are still the principal nail polish remover ingredients. You may be using too much castor oil, the use of which is covered by patent in this country. As a result, some companies use a synthetic oil-like material or mineral oil in place of it. Diethylene-glycol monoethylether, has been used and is somewhat less drying to the nails. Some companies use polyethylene glycol waxes and others use glycerin for this purpose.

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The long-known emollient and demulcent properties of Irish Moss are important plus values of SeaKem Stabilizers that offer intriguing merchandising advantages.* But it is for their performance of both common and special colloidal functions that these stabilizing agents are best known and most frequently used.

Dentifrices, lotions, pharmaceutical emulsions and a variety of similar products are made better and more sales appealing because SeaKem Stabilizers are used in their formulations to accomplish viscosity control, bodying, foam stabilization, suspension or emulsification.

Available in a wide selection of types, each one refined to definite standards of strength and uniformity, SeaKem Stabilizers are easy and efficient to use — powder in form, colorless to light buff in shade, highly odor-free, readily miscible, compatible with most other additives and modifiers.

How Can You Put SeaKem Stabilizers to Work?



Can the unique emollient and demulcent properties of "Colloids Out of the Sea" give your product new or added appeal? Are they the key to a more effective solution of your stabilizing problems? Send today for laboratory working samples. If possible, include in your letter some information about the problem — in complete confidence, of course — so that you may receive the type SeaKem Stabilizer best suited to your needs. Write today. SEAPLANT CHEMICAL CORPORATION, 63 DAVID STREET, NEW BEDFORD, MASSACHUSETTS.

 Recent radio-activity tests conducted by independent research laboratory demonstrate conclusively that SeaKem Stabilizers remain on skin after repeated scrubbing and rinsing.

Terpeneless Oils

Increased demand for flavor stability in food products
leads to terpeneless oils or products containing them . . .
Quality increased by improved processing techniques

JAMES J. BRODERICK*



James J. Broderick

THE unique properties of terpeneless essential oils and a continual improvement in methods of processing have resulted in more widespread use of these concentrated oils in a great variety of end products. From the point of view of the user the most important considerations in the selection of terpeneless oils is the variations in price, strength and quality depending on the producer and his method of production.

Removal of Non-Odorous and Flavorless Constituents

What the producer of concentrated or terpeneless essential oils is attempting is the removal of the essentially non-odorous and flavorless constituents from the oil leaving behind, unimpaired, the flavor bearing constituents in a more concentrated form. The various methods used by different producers to effect this separation, coupled with the variance in quality and general character of essential oils from different producing regions (used singly or blended), account for a great deal of the variation in odor flavor and physical properties of concentrated oils. Because of this great latitude in physical and chemical properties of the concentrated and terpeneless oils, the user must constantly be on the alert for sophistication with other natural oils or synthetics.

In general, we can divide the constituents of essential oils into two broad categories, i.e., polar and non-polar compounds. The polar compounds—esters, lactones, acids, aldehydes, alcohols, ethers, phenols, acetals, etc.—are the flavor bearing or characteristic ingredients of most essential oils. The non-polar compounds are mixtures of saturated and unsaturated hydrocarbons that have little flavor value or little of the characteristic flavor and odor of the oil. There are instances where

this is not the case but such oils are the exception and are specially processed to fit their unique properties.

Constituents of Essential Oils

Chemically, the constituents of the bulk of essential oils can be broken down into four subdivisions.^{1, 2}

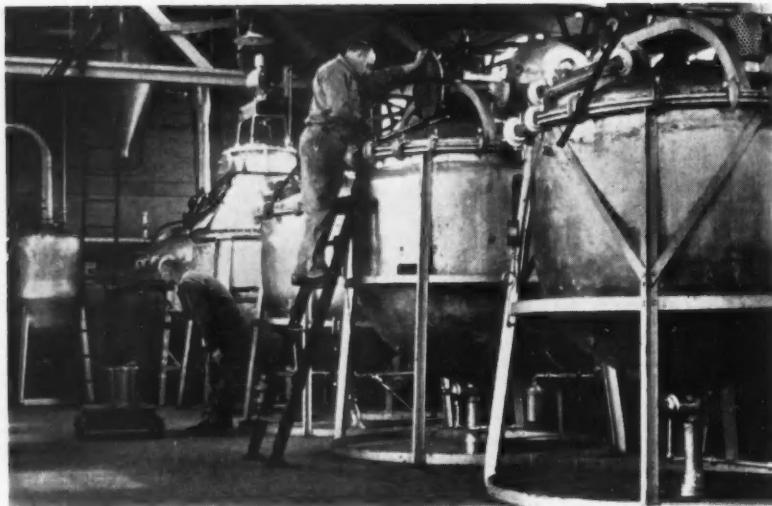
1. Terpenes of the general formula $C_{10}H_{16}$ and boiling points at 760 mm. pressure of 155-180° C. These may be straight chain, monocyclic or dicyclic. Examples of these are myrcene, limonene and pinene respectively. They are non-polar in character.

2. The oxygenated or volatile polar compounds that carry the bulk of the flavor of the oil. In general, these compounds have boiling points in the range between the terpenes and sesquiterpenes. However, as pointed out by Naves³, there is sometimes an overlap in the boiling ranges making sharp separations by distillation difficult.

3. Sesquiterpenes of the general formula $C_{15}H_{20}$ and boiling points at 760 mm. pressure of 240-300° C. These can be straight chain, monocyclic, dicyclic or tricyclic and can be represented by farnesene, bisabolene, cadiene and cedrene respectively. Sesquiterpenes are essentially non-polar.

4. An essentially non-volatile residue whose components have higher boiling points than the terpenes, oxygenated constituents and sesquiterpenes. They may be non-polar hydrocarbons of high molecular weight or higher molecular weight oxygenated ingredients such as the lactones Limettin found in lemon and lime oils and Auraptene found in sweet and bitter orange oils. The presence of these non-volatile polar oxygenated constituents in the waxy portion of the oil often causes some difficulties when solvent extraction is the method of preparation of concentrated oils. Whereas this group

* Givaudan-Delawanna Inc.



Left, a battery of essential oil stills used for distillation.

of compounds is not usually present in sesquiterpeneless oils prepared by distillation, the polar compounds such as the lactones are present in solvent extracted oils.

Other Properties

In addition to their extra strength, other properties of essential oils that are substantially freed of their non-polar constituents become obvious. It is apparent that the resultant product will be more readily soluble in hydro-alcoholic (polar) solvents and, in greater dilution, in water. Thus extracts can be prepared with a lower percentage of alcohol and in higher concentrations than the straight oil. Carbonated and still drinks, gelatine desserts, jelly candies, etc. will be perfectly clear and not have the opaque or cloudy appearance caused by the insoluble terpenes when the straight essential oils are used. This is especially true of oils high in non-polar compounds such as the citrus oils.

Terpenes and Sesquiterpenes

The terpenes and sesquiterpenes of many essential oils tend to oxidize and resinify on exposure to air under normal conditions. This deterioration of the non-polar constituents results in a very pronounced off-flavor that can completely mask the original flavor of the oil. For example, the straight essential oil of lemon when placed in a gelatine dessert powder and subsequently packaged will oxidize in the package, after a short time, resulting in a terpentine-like flavor in the finished dessert. Likewise the distilled oil of limes in a kola extract for beverages will be affected by the phosphoric acid present and the resulting medicinal flavor character will completely overshadow the characteristic kola flavor. In this latter case the terpeneless oil gives very satisfactory results. The substitution of a terpeneless oil for straight lemon oil in a gelatine dessert or similar powder is only a partial solution however. Lemon, as well as orange and some other terpeneless oils contain as their bulk aromatic constituents, aldehydes or other chemicals that are susceptible to oxidation and subsequent deterioration of flavor. The addition of edible antioxidants, especially those with good carry-through into the end product, only retard this loss of flavor.

Citrus Oil Stability

In recent years an ideal solution for citrus oil stability in powdered products has finally been found. By coating fine particles of the oil with sufficient amorphous coating material, the oils are placed in a powdered form protected from the oxidative effects of the atmosphere. The cost of processing and the coating materials makes it advisable to use highly concentrated oils to effect a more economical product.

Due to the fact that some surface oil will remain on the particle and oxidize and that most processing techniques require relatively high temperatures, the use of high terpene content oils will result in an off-flavored end product due to the oxidized surface oil, deterioration due to high processing temperatures or both. Terpeneless oils which can withstand the heat of processing and do not give off-flavored products when the surface oil oxidizes have found a large new market in this type product. These products have required the development of higher quality terpeneless oils than heretofore commercially available. Terpeneless oils, at a reasonable price, highly concentrated, yet retaining the freshness and character of the straight oil, were found necessary. Cold Processing, to place them in a locked-in-form, further improves flavor character.

Early attempts at the concentration of essential oils used straight distillation to effect removal of the terpenes. In general, terpenes have a lower boiling point than the polar constituents of the oil and the bulk of them can be removed by careful fractional distillation under vacuum.² This method still finds widespread use today. To obtain even more concentrated oils it is necessary to remove the sesquiterpenes, waxes, non-volatile polar compounds, etc. which fortunately have higher boiling points, in general, than the flavorful volatile polar compounds. A second distillation results in the removal of these higher boiling materials. For example, Leone³ found that from 5 kilograms of natural lemon oil containing 5.35% citral, there was obtained, by repeated fractional distillation at 25 mm. pressure, 4,440 grams of terpenes and 401 grams of oil free from terpenes but not sesquiterpenes. The oil had

a citral content of 40.5-43.2%, sp. gr. 0.8957-0.8977 and specific rotation $7^{\circ}55'$ to $-8^{\circ}10'$. The sesquiterpenes were eliminated by a second fractional distillation at 20 mm. pressure and collecting the fraction having a specific rotation of from 0° to -4° . The final oil (5.36% yield) had a citral content of 60.5%, sp. gr. 0.899, specific rotation $-1^{\circ}50'$.

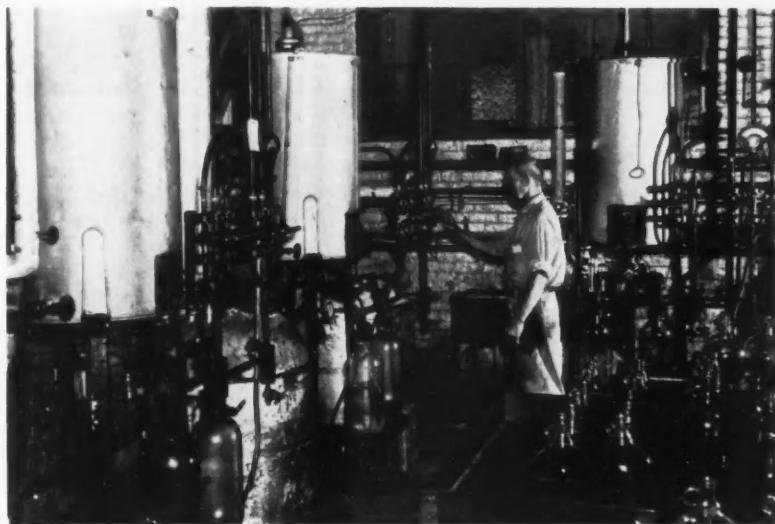
The delicate character and fine nuances of certain essential oils are changed quite drastically by the heats involved in the distillation. In other instances, such as with grapefruit oil, the amount of waxes present in the oil makes removal of the bulk of the terpenes by straight distillation virtually impossible. It was logical, therefore, to resort to steam distillation, with its lower temperatures and less danger of interference from the waxes. A method devised by Nelson and Mottern⁴ of

because of poor yields for one, to simply remove the hydro-alcoholic solvent to prepare a terpeneless oil. However, the quality of this type of terpeneless product prompts one to consider solvent extraction as a method of terpeneless oil preparation.

Effect of Distillation

In general, flavor and essential oil chemists were not satisfied with the quality of oil obtained by distillation. Not only does the heat have a deteriorating effect on delicate oils, but the selection of fractions by distillation eliminates some of the top notes and other valuable flavor components of the oil. The first practical overall method of solvent extraction that received widespread publication in the literature was the one outlined by Van Dijck and Ruy⁵ who used two immiscible solvents,

Essential oil distillation stills for fractionation of terpeneless compounds.



the Bureau of Chemistry and Soils, U. S. Dept. of Agriculture, for grapefruit oil demonstrates the utility of this method. 13,700 grams of expressed grapefruit oil was vacuum distilled and the balance of the terpenes removed. 11,900 grams was obtained and then the waxes started to interfere. The oily residue was then steam distilled and 720 grams of volatile oil obtained which contained further quantities of limonene that were removed by vacuum distillation. 1020 grams of non-volatile residue were obtained. The terpenes were treated with NaHSO_3 and the recovered aldehydes were added to the terpeneless oil.

For many years so called terpeneless citrus extracts have been manufactured and sold by the flavor industry. Whereas these may be simply terpeneless oils dissolved in dilute alcohol, in most instances they are prepared by dissolving the straight citrus oil in 95% ethyl alcohol which is then diluted with water to 50-60% ethyl alcohol followed by the removal of the terpenes that form a separate layer on top of the hydro-alcoholic extract.

These terpeneless extracts are ideal where stability, good quality and sufficient quantity for dispersion are required such as in clear beverages, liqueurs, jelly candies, fondant, etc. It would be economically unsound,

one polar and one non-polar, in an almost horizontal countercurrent extraction apparatus. This equipment consisted of a series of chambers, every alternate one containing a propeller for mixing, and settling or separation took place in the chamber where there was no mechanical mixing. The process was continuous and solvents of low boiling points were used which were easily removed under vacuum.

As an example, methyl alcohol with a high distribution coefficient for essentially all the oxygenated constituents can be used as the polar solvent and hexane which has a low distribution coefficient for these same constituents but high coefficients for non-polar compounds (terpenes, sesquiterpenes, etc.) can be used for the second solvent. Removal of the methyl alcohol under vacuum would leave behind the terpeneless essential oil. According to the originators, a terpeneless orange oil from French Guinea oil was obtained in 4.4% yield and a terpeneless lemon oil containing 40.9% aldehydes as citral was obtained in 8.2% yield from a straight Italian oil containing 3.9% citral. They used methyl alcohol and pentane for the solvents.

The general principles of this process remain as the foundation of solvent extraction of essential oils. Since a large percentage of the terpeneless oil manufactured

are citrus oils and others in which the bulk (over 90%) of the oil is terpenes, it can be reasoned that the terpenes can serve as their own non-polar solvent. A polar solvent, immiscible with the terpenes, must be found with a higher distribution coefficient for the oxygenated constituents than the terpenes. This approach was used by Wishnepsky, Jacobs and Othmer⁶ on citrus oils. They plotted the quantities of oxygenated and non-oxygenated constituents dissolved by various polar solvents and dilutions of these solvents with water. They found that their efficiency as solvents dropped for both groups but much more rapidly for the non-oxygenated constituents. By graphing their results they were able to ascertain the degree of dilution that gave the greatest ratio of polar/non-polar compounds dissolved. Thus they found that 85% methyl alcohol, 80% ethyl alcohol and 70% iso-propyl alcohol gave the most efficient separations.

We see that, in effect, the solvent selection was much more critical than those recommended in the process of Van Dijk and Ruys and that sharper separations are theoretically possible. Wishnepsky, Jacobs and Othmer did not use an extraction tower but a simple countercurrent set-up of six stages. The oils used in their experiments were of dubious origin so listing their results might be misleading.

Extraction Procedures

Extraction procedures for the manufacture of terpeneless oils have been used by the essential oil and flavor industry in the United States for many years. In general, the procedure is similar to that outlined by Wishnepsky, Jacobs and Othmer except that a six stage countercurrent extraction set-up is usually uneconomical. By relating process cost to the number of stages and the yield per stage, it is often found desirable to reduce the number of stages although, in general, the countercurrent extraction principle is followed. A wide variety of solvents are also used and it is difficult to select one solvent as superior to another. High boiling solvents, from which the terpeneless oils are recovered by dilution, also find use.

In this connection, we would like to point out that if an oil is extracted using 85% methyl alcohol, for example, and the extract divided and the oil recovered by distillation, on one hand, and dilution, on the other, terpeneless oils of different qualities are obtained. The oil recovered by dilution will be obtained in greater yield, with a higher percentage of terpenes, and possess a fresher, sweeter, more natural odor. The oil obtained by distillation will lose a little of its top note but the secondary effect of steam-alcohol vapor distillation actually removes more of the terpenes and results in a more concentrated oil. The method of recovery should be related to the strength and quality of oil desired.

The biggest difficulty in the solvent extraction of essential oils is the high wax content of some oils. These waxes often remain insoluble in either phase causing emulsification and difficulty in separations. Small quantities of citric acid⁶ or other inhibitors are sometimes added but this problem is best solved by the correct selection of solvent.

In the solvent extraction method of producing concentrated oils we have also found that two different solvents gave approximately the same yield of oil yet

noticeable olfactory and taste differences. The same essential oil and method of processing was used. Chemical analysis showed slightly different ratios of aldehydes, esters, alcohols, etc. It is logical, of course, to expect different solvents to have greater preferential solvent properties for one type of aromatic than another which accounts for slight differences in constants, odor and taste. The possibility of acetal formation suggested by Naves⁹ might also account for olfactory differences. This observation leads to the conclusion that in some cases extraction by more than one solvent may result in greater yields of oil, possibly superior.

In recent years there have been two developments in the United States that bear on the commercial production of terpeneless oils. The first of these was the development of a vertical countercurrent extraction tower capable of separating isomers, in some cases.⁷ This tower incorporates a patented screen between chambers that breaks up emulsions which so often complicates this type of extraction. This piece of equipment, used with a one or two solvent system, offers the possibility of a rapid, efficient method for the preparation of terpeneless oils.

Chromatography

In 1952, Kirchner and Miller⁸ outlined a method of preparation of terpeneless oils using the principles of chromatography. As an example, 136 grams of silicic acid were mixed with approximately 400 ml. of hexane and poured into a Tswett tube $2\frac{1}{16}$ in. in diameter. The column and receiver were placed over a source of vacuum and the pressure reduced to 2.5 inches of mercury absolute. The excess hexane was removed and 100 grams of cold pressed orange oil was carefully poured on the top of the column and drawn into the adsorbent. Six hundred and twenty five ml. of hexane were then added on the top of the column and drawn through the adsorbent. The hexane solution was tested periodically and when they no longer gave a test for hydrocarbons, the hexane was replaced by ethyl acetate. The non-terpene fraction was contained in a volume of 700 ml. When evaporated at 7 mm. of mercury at 0°C , the non-terpene fraction contained 4.0 gms. In a similar manner 108 grams of silicic acid was all that was needed to separate 100 grams of lemon oil into 6 grams of non-terpenes, 88.8 gms. terpenes for a 94.8% overall yield. The process was also used on grapefruit, clove, peppermint, petitgrain, bay and cedarwood oils and sharp separations were obtained in all cases. As one would expect, we have found that the quality of the oils obtained are similar to those obtained by solvent extraction. Although chromatographic separations have been placed into plant size operations we are reasonably certain that no sizable quantities of terpeneless oils have been manufactured by this procedure to date.

One aspect of Kirchner and Miller's work that is intriguing is the possibility of using low quality essential oils to make relatively high quality concentrated oils. By the proper elution of the essential oils it would be theoretically possible to separate from a low quality or off-flavored oil those components that are undesirable or give an off-flavor. Thus we could select, as it were, the best fractions for bulking as we do in distillation without the inherent disadvantages of distillation.

Terpeneless oils, for which there has always been a market, continue to find use and, as the quality of oils are increased by superior processing techniques, the uses of the oil increase accordingly. Today's increased demand for flavor stability in food products naturally leads to terpeneless oils or products containing them to satisfy the standards the straight essential oil cannot.

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Expansion and the New Taxes

THE Internal Revenue Code of 1954 is the first complete rewriting of the original 1913 income tax act. Of its hundreds of changes, at least two are of direct concern to those industries in whose existence research and development play a fundamental role. Therefore, the pharmaceutical and cosmetic industries are directly, and in fact, favorably affected.

One of the changes allows a realistic appraisal of depreciation. Heretofore, the amortization of capital expenses incurred in plant expansion for example, followed a formula in which depreciation was deducted in equal portions over the whole capitalized life. The incongruousness of such a formula is obvious: depreciation proceeds at a greater rate over the earlier than over the later years. The new income tax law, allowing a greater rate of depreciation in the early years of a capital expense, allows a realistic reflection of actual depreciation.

Another important change in the law is the choice

offered to a firm in the manner of deducting its research expenditures. Under the old law no special arrangement was recognized and research expenditures were frequently capitalized. Though in certain instances, particularly in unprofitable years, capitalization of research expenditures may be wisely elected, the new law allows their deduction as current expenses if the taxpayer so chooses. That provision is a sound one, and will probably be elected by many who had previously capitalized research expenses.

The new tax law is good because it is equitable in the light of current conditions and because it frequently allows a choice in applying its provisions. But the proper choice is not always the obvious choice. Guidance of a recognized tax expert should therefore be sought so that the advantages the new law offers can be satisfactorily utilized.—*Monthly Bulletin of Di Cyan & Brown*.

The toilet goods industry as a whole is composed of a large number of small manufacturers. The largest company in the field does only slightly more than 3% of the annual volume. Competition is intense and, since virtually the only increase in price has been by the amount of the excise tax, profits have sharply declined. The elimination of this discriminatory and regressive tax would undoubtedly stimulate sales, make price increases unnecessary, permit profits, leave spendable income in the hands of the consumer, and increase government revenues in the form of corporate and individual income taxes.—*Joseph Keho*.

Some people don't have much to say but you have to listen a long time to find it out.—*The Item*.

Cosmetic Excise Tax Collections

COSMETIC excise tax collections in 1952 and 1953, and through May, 1954 are given in the following table:

	1954	1953	1952
January	\$ 8,147,000	\$13,123,480	\$11,547,853
February	29,489,000	13,859,961	14,338,420
March	1,957,000	7,805,077	7,248,879
April	6,503,000	9,236,101	8,218,865
May	20,733,000	9,286,470	9,174,622
June	-1,662,000*	8,876,000	8,253,649
July	4,323,000	9,996,000	9,357,443
August	582,000	5,964,000	8,849,488
September	201,000	370,000	8,523,241
October		8,201,000	8,439,370
November		19,912,000	7,878,976
December		536,000	10,432,117

It may be noted that cosmetic tax collections beginning with September, 1953 appear to follow an irregular course. This is due to the change in the system for collecting these taxes on a quarterly instead of on a monthly basis.

*Negative amounts in monthly totals are due to revisions of amounts for earlier months.



"Our warehouse is full of vanishing cream. I want to see it vanished in '55!"

Function of face masks . . . Cream, powder, gum and other masks for dry and greasy skins and for other conditions . . . How they are formulated

how to make

SOMETIME ago I read in a woman's magazine a prescription for a nourishing face mask, which is really a nourishing one, so that even the American Food and Drug law must recognize it as such.

"Mix one egg yolk with a teaspoonful of lemon juice adding so much olive oil, drop by drop, that you get a thick cream."

Put as much as you need on your face, mix the rest with salt and pepper and fix up your favorite salad dish. Isn't it a real nourishing mask?

Purpose of Face Mask

But seriously what is the purpose of a face mask? The outer layer of our skin contains up to 72% of water and our skin needs water badly, because it gives it off to the air all the time. Therefore if you interfere with the liberation of water to the air by any means, the skin has time to rest and get refreshed. Nearly every raw material, which slows down the "breathing" of the skin will help, beginning with water (cold compresses) up to a layer of soft paraffine. The last is used too in cases of bad burning, bandaged tight, where it effects the same purpose.

The raw material of the cosmetic face mask is kaolin, or sometimes the derivates of it, bentonite or even Fuller earth. It is used up to 100% in European face masks. There is a difference in face-masks in the different countries. America prefers the ready-made face masks in cream form, whereas the European prefer the powder form. Both have their advantages and drawbacks, but there is one point, which speaks for the powder form, the use of some raw material which would otherwise spoil.

Perdigon writing in *S.P.C.* (May 1948) presents a very interesting article about marine plasma creams:

Let us suppose, that we introduce into the interstitial spaces of the cutaneous tissue, incorporating it with a penetrating cream, a solution of sodium chloride, that is isotonic with the blood plasma (solution NaCl physiological). Three cases may be envisaged:

- A) The cells are normally hydrated: Nothing takes place.
- B) The cells are dehydrated, i.e. they contain a

hypertonic liquid: They will absorb water and if the sodium chloride solution is supplied in sufficient quantity, isotonicity is restored.

C) The cells are superhydrated: i.e. they contain a hypnotic liquid: They can only regain their normal osmotic pressure by losing water and not by absorbing chlorine of sodium ions, since the latter do not pass through the cell walls such as glucose and quite likely in the view of the analogy in constitution of glycerol.

Regeneration of Face Powder Mask

With reference to the above lines, a "regeneration" face mask could be made either by addition of glucose to the different powders or by producing a cream mask with either physiological NaCl solution or a mixture of 1 part sea water and 3 parts normal fresh water.

You have to differentiate between masks for normal, dry and fat skin. As said above the face masks consist sometimes of 100% pure kaolin, but mostly with the addition of other raw materials. This goes for normal skin.

Here is the addition talcum, rice starch and about 10% of some ingredient by which different people "swear." Here especially is the powder form type of vehicle of choice. For example, dried yeast will never keep well in cream form, but yeast masks are very well liked in England. Or the "masque aux herbes" in France, which contains foliae salviae, camomille and "tilleul," which with melissa officinalis and foliae menthae is very much used in France; these herbs are milled to a fine powder and added to the mask. If you change the "tilleul" to "witch hazel," you get the English version.

The addition of Sodium bicarbonate gives a special mask as, by preparing it with water, which contains a bit of vinegar or lemon juice, you get a carbonated mask. The contrary of it, is the addition of sodium perborate which prepared in the same way as the foregoing, gives an oxygen mask.

Masks for Dry and Greasy Skins

For the dry skin the addition of dried milk powder, sometimes of dried egg powder and/or dextrose, is said to produce a really good effect.

The greasy skin needs the face mask most, because here the mask helps to remove the soil to some extent. Here the powder mask is to be mixed with 10% of

* Tel Aviv, Israel

face masks

sulfur precipitatum. Sometimes an addition of 10% borax is sufficient, sometimes you have to add potassium carbonate, but in every case of greasy skin zinc oxide is indispensable. Before the second World War, it was the vogue in Austria and Czechoslovakia to make mud masks, consisting of 50% of mud from one of the world famous spas, like Pystian, Teplitz or in Hungary from "Gellert." This was a kind of sulphur mask too with some radioactivity as a bargain thrown in.* It would be interesting to do it again with mud from Montcatini, Tiberias or in American hot springs.

Sulphur Masks

Speaking about sulphur masks, here is a really effective mask:

Bolus alba	500,0
Borax	20,0
Sodium thiosulfate	80,0
Terra silicea	200,0
Talcum	200,0

The sodium thiosulfate has to be milled fine and mixed with the other powders. This mask is therefore effective, because the sulfur is dropped on the skin only, when it comes in contact with water and the effect is *in statu nascendi*. A very well known English firm makes a mask against acne as follows:

Kaolin	85,0
Sulfur precipit.	2,5
Zinc oxide	2,5
Calamine	5,0
Manganesium hydroxide	5,0

Other Masks

Before we come to cream masks, I would like to mention two kinds of masks:

1) The so-called wax mask, which consists of 75% of paraffine solid or microcrystalline paraffine, 20% of soft paraffine and 5% of olive oil. After reheating this mask in a waterbath, it is put on the face with a brush,

* There is a question about the safety of continued use of this kind of product.—EDITOR.



by

Herbert C. Janowitz, Chem. Eng.*

solidifies and is taken off in one piece, bearing all impurities.

2) Lotions, which contain up to 10% pepsin and some acid, are used as cold compresses and owing to the property of pepsin of digesting protein, makes a very clear skin.

Between these and cream masks are the gum masks, in Europe called Hollywood masks. The formula is very simple:

Gelatine	15,0
Zinc oxide or Calamine	15,0
Glycerine	35,0
Dist. Water	35,0

Cut the gelatine in small pieces and soak in water, till soft. Add the glycerine and heat on a water bath till the gelatine is dissolved, then sift in the zinc oxide, stir well and fill warm in tubes. This mask must be warmed every time in a water bath before use. Put on the face. It will after about 20 minutes become like a piece of gum (therefore the name) and can be taken off in one piece, with all the impurities of the skin adhering to it.

Contour Lotions

Also the so-called contour lifts or contour lotions are nothing else than masks, but they are invisible. The simplest form of it is 2 parts of fresh albumin from eggs and 1 part alcohol 70%. The same goes for a dilution of benzoin tincture, or solution of acacia 5-10%.

If the acacia mask is mixed with kaolin (up to 50%), there is the cream mask. But because methylcellulose does not dry as quickly and does not spoil so easily, even, when unpreserved, it is now preferred. A simple formula is:

Methylcellulose, medium viscosity	25,0
Sorbitol	50,0
Water	500,0
Chlorophyllin	0,2
Kaolin	474,8
Preservative, perfume	q.s.

Another cream mask is made with Bentonite (deNavarre)

Bentonite	15,0
Titandioxyd	3,0
Glycerin	5,0
Sulfonated castor oil	3,0
Water	74,0

deNavarre advises the addition of phenol-sulphur and phenol-camphor mixture or Zinc sulphocarbonate, dissolving these in the sulfonated oil.

As a refreshing cream-mask even a very cheap toothpaste of the non-foaming type, can be used.

Sometimes the addition of Balsam of Peru (ca 5%) is mentioned for use as a stimulant, but there are quite a lot of people, who cannot tolerate it.

On the other hand, there are a lot of specialties, which can be added to the watery phase of the formula for its benign purpose, like witch hazel water or Indish tea infusion.

The following list of infusions or waters may be used instead of distilled water: real rose water or real orange flower water. Infusions of camomile, fennel, sage, arnica, lavender, juices of cucumber, lemon, orange, papaya and carrots.

Bill Jr.—Mennen Co.'s Top Salesman

COOKING up something new seems to be a Mennen family trait.

The late grandpa Gerhard brewed a foot-corn killer in the rear of a Newark, N. J., drug store, 75 years ago, which led to the founding of the Mennen Co. His son, William G., current president, created the first successful shaving cream in squeeze tubes and the first talcum powder exclusively for men.

Now, William G., Jr., executive vice president, discloses that this traditionally men's toiletries and baby products company will introduce next year a skin-care product designed for women!

Bill Jr. is the man responsible for the current nationwide forum series, sponsored by Mennen, which brings to the public, via TV, business forecasts and predictions by some of America's top executives of firms at least 75 years old.

Sales Up 1000%

Young Bill and his younger brother George, vice president in charge of manufacturing, refer to their father as "the boss." However, while Dad is the financial "brains" of the firm, it is junior who is actively engaged in selling Mennen products throughout the world.

"Dad calls the signals, I run with the ball," is the way he puts it.

Big vigorous Bill Jr., now 41 (he looks much younger), has been enthralled by the family business since his father allowed him to browse around the plant when just a boy. But after graduating from Princeton in 1936, Dad said: "Prove your earning ability elsewhere before you join Mennen."

"I obtained a job for \$80 a month with McKesson & Robbins in St. Louis," Bill recalled. "I got married and we lived in a low-rent project for a year. I got some valuable experience in wholesale operations."

The following year, as a clerk with Peoples Drug stores in Washington, D. C., gave him a taste of the retail side of business. Finally, in 1938, Dad took him on in Mennen's production section, with overalls his working clothes.

Before reaching his present position, Bill worked in various departments, learning company problems first hand. Like his father and grandfather, he "lives the business."

Bill is modest about his role with Mennen Co., but admitted sales have increased 10-fold since he first became associated with it. This year, he said, volume will be the biggest in the company's 75-year history.

His pet project at the moment is the series of forums.

"Our aim," he declared earnestly, "is to give the American public a picture of what's ahead in business and progress, based on the thinking of responsible . . . leaders." The series, when completed, will have been conducted in practically every section of the U. S.

But there's no telling how far Bill Mennen, Jr., will go to make a point. After all, Grandpa hired a minstrel singer, a horse and buggy and toured N. J. to drum up business and Bill, Sr., flew around the far reaches of Alaska in quest of new customers.—Excerpt from an article by Emanuel Doernberg in *The New York Journal-American*.

W. A. Poucher Awarded S.C.C. Medal



William A. Poucher accepts the coveted annual medal award from President Kenneth L. Russell at the conclusion of the banquet

Presentation by Dr. Kenneth L. Russell concludes well attended annual meeting of the Society of Cosmetic Chemists

BEFORE a large audience in the grand ballroom of the Hotel Biltmore, New York, William A. Poucher, chief perfumer and technical advisor of Yardley of London Ltd., was awarded the coveted medal of the Society of Cosmetic Chemists. The award was made at the conclusion of the banquet December 9 following introductory remarks by Pierre Bouillette of Givaudan-Delawanna Inc. and H. Gregory Thomas, president of Chanel Inc.

In his informative remarks Mr. Thomas lauded Mr. Poucher as a pioneer in the field of perfumery and also for his achievements otherwise, notably with reviving the English lavender industry. Since 1930 he has been associated with Yardley of London Ltd. Prior to that he was a leading cosmetic and perfumery consultant in England and enjoyed an international reputation as such. He is the author of a three volume work "Perfumes, Cosmetics and Soaps", a reference work first published in 1923 but now in its sixth printing. The work has been translated into seven languages. Mr. Poucher is the only person ever elected to honorary membership in the Society of Cosmetic Chemists of Great Britain. Despite the pressure of his work as a scientist and author Mr. Poucher finds time to be an ardent photographer and a skilled pianist. Combining his skill in photography and his enthusiasm for mountain climbing Mr. Poucher has compiled twenty books of mountain photographs which are well known in the United States as well as abroad.

The medal was presented by Dr. Kenneth L. Russell, president-elect of the Society in the absence of President

Donald Powers who was unable to be present on account of an automobile accident.

In presenting the award Dr. Russell said: "William A. Poucher, in acknowledgement of your outstanding contributions to the science of fragrance and perfume; in recognition of your pioneering efforts in transforming an art to a science; in appreciation of your exploration in resolute English style of a field shrouded with the cobwebs of mystery—William A. Poucher, I present you on behalf of the members of the Society of Cosmetic Chemists, our medal which the Society has established as our highest award for contributions to the science and art of cosmetics."

Mr. Poucher delivered a comprehensive paper titled "Ventures Into Fragrance." He identified perfumery as one of the three arts (music and painting are the other two) and indicated that perfumery is the most intangible and the least understood of the three. Discussing the materials that go into perfume-making today, Mr. Poucher mentioned that approximately 1,000 raw materials are now available for perfume manufacture as against 200 sources in former times.

New Officers

The newly elected officers who were installed at the luncheon are:

President, Dr. Kenneth L. Russell, Colgate-Palmolive Co.

President-elect, George G. Kolar, Kolar Laboratories Inc.



TOP ROW

Left: During a lull in the evening's festivities Dr. William Colburn pauses to chat with Dr. Sol Gershon

Right: Surrounded by a group of admirers Medalist William A. Poucher partakes of the pre-banquet festivities. Standing left to right: George Finkenstadt, Maison G. deNavarre, William A. Poucher and Fred Shoninger. Seated, left to right: Dr. Everett Saul, Mrs. Maison G. deNavarre, Mrs. Emil Klarmann, Mrs. Fred Shoninger and Dr. Emil G. Klarmann

SECOND ROW

Left: Miss Phyllis Carter and Dr. and Mrs. Oliver Marton enjoy the music during the pre-banquet festivities

Right: E. S. Patterson registers a well told anecdote with J. Jespersen, W. W. Jerome, Hans Wagner, Dr. Victor Fourman and E. P. Millard

THIRD ROW

Left: Fred Fielding in an earnest discussion with Michael Stanton and Herbert Perry

Right: Lee Feltz, Robert F. Schuler and Samuel Zuckerman are amused by the repartee of Lester Conrad

BOTTOM ROW

Left: Principal speakers—Seated: D. J. Birmingham, U. S. Public Health Service; Peter Flesch, University of Pennsylvania; H. B. Chase, Brown University; C. C. Tillotson, Procter & Gamble Co.; Standing: I. L. Lubow, Skin and Cancer Unit, New York University—Bellevue Medical Center; E. S. Lutton, Procter & Gamble Co.; and H. W. Zussman, Geigy Industrial Chemicals. Stephen Rothman, University of Chicago, Dermatology Section, another speaker, was not present when the photograph was taken.

Right: Philip Prussak asks a highly technical question which chemist George Fiedler ponders



Irving Bennett expounds his views on the business outlook to William Reed, Dr. Victor Fourman and George Fuller

Acylated Amino Acids in Cosmetics

ALTHOUGH known for almost twenty years, the acylated amino acids—and especially lauroyl sarcosine—are only now finding significant usage in cosmetics. Best known application is in dentifrice, but suitability for shampoo, shaving cream and skin cleansing preparations is indicated. Closely resembling the fatty acids in appearance, the acyl sarcosines are stronger acids, are somewhat more soluble and more crystalline. They adsorb strongly on metal as well as protein surfaces and have anti-corrosive properties of special interest for aerosol formulations. Surface activity is strongly dependent on the concentration of the un-ionized species or possibly a molecular complex $RCOOH \cdot RCOO'$ as in the case of soaps. Lathering, detergent and biological characteristics of these products are discussed as well as some general principles of product formulation.—*Abstract of S.C.C. paper by H. W. Zussman and W. Lennon.*

Treasurer, Dr. Walter A. Taylor, Pond's Extract Co.
Secretary, Robert A. Kramer, Evans Research & Development Corp.

New directors: Gabriel Barnett, Warner Hudnut Inc., and Miss Phyllis J. Carter, Atlas Powder Co.

In his installation address, Dr. Russell lauded the outgoing officers for their accomplishments during 1954. He gave special praise to the highly-successful seminar held for the first time this year. Looking ahead to the Society's tenth anniversary in 1955, he indicated that plans are being made to celebrate the milestone.

The new officers were installed by Paul I. Laufer, Chairman of the Society's Executive Committee, officiating in place of retiring president Dr. Donald H. Powers. His summary of the Society's progress during the past year was read to the group by Mr. Laufer. Particular emphasis was placed on the establishment of a new annual award of \$1,000 to honor outstanding work in cosmetic research. The first such award is expected to be made next spring.

Papers read at the technical sessions were: "The Use of Acylated Amino Acids in Cosmetics," H. W. Zussman and W. Lennon; "The Physical Chemistry of Stearic Acids," C. C. Tillotson; "Polymorphism of Glycerides Distinguishable by X-ray Diffraction," E. S. Lutton; "The Use and Newer Applications of the Silicone Compounds in Dermatology and Cosmetics," Dr. I. L. Lubow; "Newer Aspects of Epidermal Differentiation," Peter Flesch, University of Pennsylvania; "Alterations in the Skin Physiology Following Continuous Use of Soaps and Detergents," D. J. Birmingham, U. S. Public Health Service; "The Mechanism of Percutaneous Penetration and Absorption," Stephen Rothman, University of Chicago.

Properties of Stearic Acid

COMMERCIAL stearic acid is not pure stearic acid. It is a mixture of fatty acids containing a ratio of approximately 55% palmitic and 45% stearic acids. Usually small amounts of other fatty acids, such as oleic and myristic, are also present in amounts depending on the grade and manufacturing method used. Commercial stearic acid is normally made from tallow or grease by pressing or solvent crystallization after fat-splitting and removal of glycerine and impurities. Other ratios of fatty acids up to almost pure stearic acid can be obtained by hydrogenation and fractional distillation.

Commercial stearic acid containing the normal ratio of 55% palmitic to 45% stearic acid has found wide use in cosmetic formulations. Some of the physical chemical properties of commercial stearic acid and various proportions of palmitic to stearic are reviewed to provide a basis for understanding their behavior in cosmetic preparations. Crystal structure, melting point, size of



Among the first to congratulate Medalist William A. Poucher after the presentation were E. R. Durrer, Dr. Kenneth Russell, Dr. Everett G. McDonough, Pierre Bouillette and R. E. Horsey

crystals, solubility, and x-ray diffraction patterns are basic characteristics which give useful leads to performance properties and help establish the latitude in formulations to meet desired quality standards of finished products. The value of considering their significance in the development of cosmetic formulations is pointed out.—*Abstract of S.C.C. paper by C. C. Tillotson.*

Silicone Compounds in Cosmetics

THE silicones have been introduced into the field of dermatology and cosmetics during the past few years because of their unusual chemical properties and their ability to act as protectants when applied topically to the skin.

The silicone fluids are characterized by little change in viscosity with variations of temperature, and excellent stability. They also possess little volatility even when exposed to temperatures of 150° C.

The properties which suggest a usefulness in their application in the dermatological and cosmetic field are the following:

They are clear, colorless fluids and usually are bland or tasteless. They possess excellent chemical and physical stability and are easily emulsified and there is no tendency toward rancidity. The low surface tension is helpful in the easy incorporation in pharmaceutical formulation.

The solubility of the Velvasil Silicone fluids vary with the chemical nature of the compound. The toxicological studies have demonstrated the innocuousness when applied topically on humans and animal integument.

Tajkowsky and Reilly have suggested formulations of the silicones in various dermatological and cosmetic applications, as protective skin creams and lotions, baby creams and lotions, sun screening preparations, hair dressings, ointment bases, lip pomade, lipstick bases, and emollient creams.

This paper deals with the practical application of Velvasil Fluids dispersed in an acid mantle cream and also an alcohol soluble Velvasil Fluid emulsified in a triethanolamine stearate with the inclusion of emollient lanolin compounds.

The following methods are suggested for the laboratory and clinical evaluation of the protective action afforded by silicone preparations.

- 1—Hand washing tests
- 2—Film stability tests
- 3—Determination of protection against known allergens
- 4—Radioisotope studies with Silicone C-14
- 5—Clinical protection against contact dermatitis.

Various viscosities from 100 centistokes (cs) to 100,000 cs were used in a water dispersible acid cream having a pH of 5.0. The silicones were emulsified with Tween 60. Various concentrations were used to determine the effectiveness as protectants by patients who demonstrated a contact dermatitis either to water, soap, detergents, or chemicals.

Studies have been initiated to demonstrate the effectiveness of the above silicone formulations against known eczematous allergens. The effectiveness of the clinical usage tests by fifty subjects will be interpreted. The silicone formulations described above have good protective action in the prevention of the recurrence of dermatitis venenata due to soap, detergents, and occupational contacts.—*Abstract of S.C.C. paper by Irwin I. Lubowe, M.D.*

The Physiology and Histochemistry of Hair Growth

EMPHASIS is placed upon the interacting components of the skin, especially as they vary histologically and histochemically in relation to phases of the hair growth cycle. The synchrony of growth of neighboring hairs in some animals is compared with the usual lack of synchrony in the hairs of man and the guinea pig. A major factor in this difference is possibly the distance apart of follicles. The nature of the hair growth cycle is reviewed and the permanent upper external sheath is presented as the central, if not master, component in the integrated skin. In order to account for the hair growth cycle and related behavior in the epidermis and sebaceous gland, the hypothesis is presented that there is an accumulation of an inhibiting substance during the rapid production of the inner sheath and hair. When this substance reaches a certain concentration, growth of the hair is stopped and a new growth is prevented until the concentration falls below a critical threshold.—*Abstract of S.C.C. paper by Herman B. Chase.*

Skin Physiology and The Effect of Soaps and Detergents

DERMATOLOGISTS and others interested in the physiology of the skin have long sought a complete explanation of the alterations brought about by the use of detergents. Though a wide range of information can be applied to this problem, it has not been found to establish completely cause and effect relationships. The accumulated data, however, have definitely served to convince investigators that no one factor is responsible for the cutaneous changes suspected as being caused by detergents.

While the physiologic functions of the skin are by no means completely understood, it is almost universally agreed that the answer to the detergent problem rests upon determining how keratin, sweat and pH, water retention and diffusion, CO_2 diffusion, sebum, enzyme systems, and perhaps other functions of the skin are affected.

In the past 25 years, many noteworthy scientific contributions have helped to unfold some of the complexities of structure, function, and response of the skin to external stimuli. In the field of detergent action on the skin, Burckhardt, Neuhaus, Pluss, Lane, Blank, Kooyman, Snyder, Gaul and Underwood, Scott and Lyon, Johnson, et al, and a number of other investigators have contributed valuable data.

The contributions of Burckhardt and others on alkali neutralization, whereby the skin is endowed with a buffering action, and the demonstration that detergents containing alkali tend to impede this inherent ability of the skin have been well accepted. Blank and Lane, in their publications, have cited numerous references emphasizing the fat-emulsifying properties of detergents and how the excessive removal of lipoids can lead to defatting, with loss of pliability of the skin. Blank further has recently suggested that the pliability of keratin is more dependent upon its content of water than oil. In addition, he emphasized the role played by air currents, humidity, and barometric pressure in the maintenance of normal keratin. Gaul and Underwood studied the action of dewpoint and barometric pressure on the skin. They were able to conclusively show that these

factors have tremendous influence upon the hydration of the skin.

More recently, Van Scott and Lyon, experimenting with keratin, suggested that sulphydryls are released from dried defatted keratin which has been suspended and incubated for two hours in one to ten percent solutions of soap and detergents. They attributed the release of sulphydryls to a denaturation of the protein contained within the keratin.

Johnson, Kile, and Kooyman, et al. made several interesting observations regarding the clinical changes of the skin associated with the use of detergents.

In addition to these observations, much research has been conducted on the mechanisms involving sweat and pH, sebum, keratin, and other physiologic functions of the skin.

Thus, it becomes immediately evident that a number of factors are involved in the cutaneous response to an environmental contactant such as a detergent.—Abstract of S.C.C. paper by Herman B. Chase.

The Mechanism of Percutaneous Penetration and Absorption

ABSORPTION through the multilayered epidermis and through appendages will be distinguished. The development of radioautographic techniques made it possible to distinguish these two pathways with different absorption mechanisms. The transepidermal absorption seems to have a monolayered barrier or partial barrier for electrolytes and for water. Lipid soluble substances with small molecular weight penetrate this barrier easily. The properties of this barrier will be discussed. While transepidermal absorption depends primarily on the chemical nature of the substance to be absorbed, transfollicular absorption depends also on the physical forces applied and present such as rubbing, surface tension and wetting. Whether absorption through intact skin can be promoted by choice of suitable vehicles is highly problematic. Little is known about absorbability of greasy ointment bases but available data indicate that it is negligible.—Abstract of S.C.C. paper by Stephen Rothman.



Left: R. L. Stokes argues a point of interest with Paul Lelong and George McCarty, in the interim between sessions. Right: Rubin Udes, Milton Slade, Dr. Julius Wetterhahn, S. I. Krebs, Albert Shanksy and Herbert Linne pause on the stairway just before the luncheon





TOP ROW

Left: Maison G. deNavarre and Gus S. Kass snapped during an informal discussion

Right: Among the notables at the banquet were Dr. Paul Lauffer, Mrs. Eunice Miner, E. R. Durrer, H. Gregory Thomas, Pierre Bouillette and Adolphe Barrere

SECOND ROW

Left: Henry Eickmeyer, Miss Louise LeBars and Robert Gulick look over the program for the scientific sessions

Right: Miss Hazel Bishop explains a technical point to an interested group composed of Stephen Slyman, Ralph Fine, Angelo Grammarino and Philip Pensak

THIRD ROW

Left: Harry Hilfer discourses on the afternoon program to a group composed of Harold Anderson, Nathan Gershon, Ben Perry and William Rubin

Right: Just before the banquet Jack Friedman, Morris Root, David Lakritz, N. Poussain and Joseph Fein await the distribution of cocktails

BOTTOM ROW

Left: B. D'Ancona greets a young friend Gerald Bessinger at the cocktail party

Center: Mr. and Mrs. Ray Reed with Michael Stanton, chairman of the New York Chapter of S. C. C.

Right: B. G. Wirsing, Nathan Fretz and Gert Keller enjoy a timely anecdote by Miss Rachel Heald

Epidermal Differentiation

BETWEEN the inner and outer surface of the epidermis, within a distance of about 1/1000 of an inch, numerous changes occur. Some of these changes are environmental, such as decreases in temperature, pH and water content, others are inherent in the epidermis itself. The latter can be studied from a morphological, physical or chemical point of view.

Recent findings indicate that many of the conclusions reached from analyses of animal skin cannot be applied to human epidermis and that only a systematic study of human epidermal components will throw light upon the mechanism of epidermal differentiation. Such studies have been made possible by new methods used for the isolation, fractionation and identification of epidermal components. The application of these techniques has already yielded some promising results.—*Abstract of S.C.C. paper by Peter Flesch*.

Polymorphis of Glycerides

MONO-, di- and triglycerides or their mixtures are useful components in cosmetic preparations, often being the basis for achieving a desired consistency. The consistency of plastic creams is due mainly to the solid content—not only the amount but also the crystal type. Many techniques are useful in studying crystal type but none perhaps so generally valuable as x-ray diffraction.

Several degrees of complexity in phase behavior are exhibited by the various glycerides—from the simple monomorphism of the rare 2-monoglycerides through

the familiar if disputed monotropic (non-reversible) trimorphism of simple saturated triglycerides to the mixed monotropic (non-reversible) and enantiotropic (reversible) tetramorphism of 1-monoglyceride. The study of polymorphism of long-chain compounds can be made as involved and detailed as one might wish, but its main features and techniques are sufficiently simple for ready practical application.—*Abstract of S.C.C. paper by E. S. Lutton*.

Package for Display

THREE are many compelling reasons why merchandisers emphasized the packaged product in display—particularly those items with strong natural appeal and where brand or trademark promotion, product decoration or novelty can be converted into display assets. The same qualities that give a package shelf appeal are equally effective when incorporated into the advertising and display promotion. Here the package is the vital link between merchandising effort and consumer identification and acceptance of the product.

Outstanding among the packaged products lending themselves to dramatic display are perfumes and other luxury or gift items; sundries and notions or other products in transparent packages, which help the product to sell itself; packages easily identified as to type of contents in illustrations; and distinctive packages easily identified as to type of contents or brand.

In any case, the package should be as powerful a sales vehicle as the designer can make it, within the limits imposed by cost, physical characteristics, distribution channels and function. For a striking or "friendly" package becomes one of the greatest assets of the display—a further inducement to buy the product rather than a barrier between product and user.—*Modern Packaging*.

In order to trade up his sales of fast selling cosmetics the Goodrich Rexall Pharmacy of Douglas, Wyom. placed only large economy sizes of these items on his self service units. Sales rose sharply.—*American Druggist*.

Beauty of face is only a small part of beauty in general. According to Moresco there are these points of beauty: Three are white—the skin, the teeth, the hand; three are red—lips, cheeks, nail; three are long—body, hair, hands; three are short—ears, teeth, chin; three are wide—breast, forehead, the space between the eyes; three are narrow—the waist, the hands, the feet; three are thin—fingers, nostrils, ankles; three are plump—lips, arms, hips—Charles V. Sparhawk.

If all the questioners answered, or even more people answered than didn't answer and if they all said the same things to the same question every time and if there were not a lot of unmeasurables—then a survey would really be something.—*Nation's Business*.

Technical Abstracts

The Chronic Dermal Toxicity of a Series of Polyethylene Glycols. Thomas W. Tusing, John R. Elsea, and Anita B. Sauveur. *J. Am. Pharm. Assoc. Sci. Ed.* 489 Aug. 1954.—Liquid polyglycols E300 and E400 and solid polyglycols E1000, E2000, E4000, E6000, E9000 were studied over a ninety-day period in rabbits by repeated dermal application. None of the materials produced significant skin reactions or gross evidence of systemic toxicity from prolonged dermal contact. All deaths that occurred during this study of polyglycols were believed caused by an extraneous parasitic infestation. Liver and kidney function studies on the experimental animals revealed no significant alteration and the values were comparable to those of the controls. There were no histological findings in any of the visceral organs that could be interpreted as being produced by dermal application of the various polyglycol materials. It would appear that these polyethylene glycols would produce no harmful effects when used in applications that might involve prolonged, extensive contact with the human skin. Thru *C.A.*

Methods of Testing Essential Oils. British Standards Institution (B.X. 2073: 1953, 23 pp.).—Physical methods are described for sp. gr., apparent density (wt. per ml), optical rotation, refractive index, freezing-point and melting point, and solubility in alcohol. The chemical methods include acid val. and ester val., ester val. after acetylation and the determination of citronellal, aldehydes other than citronellal, carvone and menthone, and phenols. The analytical methods recommended are well-tried and modified in some details for greater accuracy. The conditions for the determination of solubility in alcohol are more strictly defined and a "standard opalescence" prepared from AgNO_3 and NaCl is used for comparison when the soln. is turbid. Thru *C.A.*

Coliform Bacteria in Soluble Oil Emulsions. Hilliard Pivnick and F. W. Fabian (Michigan State Coll., East Lansing). *Appl. Microbiol.* 2, 107-10 (1954).—Coliform bacteria were absent, or present only in small nos., in sol. oil emulsions from industrial sources as detd. by plating on nutrient and eosin-methylene blue agars. Coliform bacteria from feces grew readily in sol. oil emulsions, but quickly disappeared or were greatly reduced in no.

on prolonged incubation. This reduction in nos. may have been due to the presence of *Pseudomonas* species which predominated in this medium. *C.A.* Vol. 48, No. 11, p. 8324.

Growth of Pathogenic Bacteria in Soluble Oil Emulsions. Hilliard Pivnick, W. E. Engelhard, and T. L. Thompson (Univ. of Nebraska, Lincoln). *Appl. Microbiol.* 2, 140-2 (1954); cf. *C.A.* 47, 11663b.—Strains of *Salmonella* schottmuelleri, *S. typhimurium*, *S. oranienburg*, and *S. pullorum* grew readily in a mineral oil emulsified with soaps of petroleum sulfonate and resin, while strains of *S. paratyphi* and *S. typhosa* did not. One strain of *Klebsiella pneumoniae* grew while another died within 21 days. *C.A.* Vol. 48, No. 11, p. 8323.

Volatile Oil in Spices. N. Aubrey Carson (Food & Drug Admin., St. Louis, No.). *J. Assoc. Offic. Agr. Chemists* 37, 390-1 (1954).—A combination lighter- and heavier-than- H_2O trap was not successful in overcoming the difficulties in the detn. of volatile oil in allspice which contains both types of oils. The use of glass connections and a heating mantle is suggested for the detn. of volatile oil in spices. Thru *C.A.*

Cosmetics with Witch Hazel. Theodore Mildner. *Kosmetik-Parfum-Drogen-Rundschau* 1954, 34-5.—The possibilities of use of witch hazel in cosmetic preps. are reviewed and substitutes for this drug are given. Thru *C.A.* 9020f.

Detection of Piperonal in Mixtures of Vanillin and Piperonal. A. Castiglioni and G. Bionda (Z. anal. Chem., 1954, 141, [3], 189-190).—Piperonal can be detected in the presence of vanillin on the micro scale by the formation of an insol. condensation product with cyclohexanone. A 0.1 ml portion of the test soln. is reacted with 0.2 ml of a 10 per cent. soln. of cyclohexanone in 95 per cent. ethanol, and 2 ml of 10 per cent. aq. NaOH is added. After shaking, the soln. is brought to the boil and set aside. If piperonal is present, the liquid becomes turbid in 15 min. and turns milky, but a ppt. may separate immediately. As a confirmation, the liquid is filtered, the ppt. is washed with water and the filter is dried. On the addition of a drop of H_2SO_4 , the deep violet colour of

2,6-dipiperonylidene cyclohexanone confirms the presence of piperonal. Vanillin forms no ppt. under these conditions with cyclohexanone, but gives a yellow-red soln. which may make the turbidity less easy to observe. Coumarin, salicylic acid, acetyl-salicylic acid and benzoic acid in the vanillin do not interfere. The sensitivity of the method is 0.0001 g. of piperonal. *C.A.* Vol. 48, No. 11, p. 8324.

Decolorization of Absolute (Essential Oils). Pierre A. Muller. *Seifen-Ole-Fette-Wachse* 80, 135-6 (1954).—A review on the decolorization of absolutes and concretes by treating with active C, steam distn., chemicals (esterification), selective solvents, and co-distn. under high vacuum (with glycols, glycerol, or phthalates). *C.A.* Vol. 48, No. 14, p. 8491.

Protective Preparation against Mustard Gas. Joseph N. Loehle (to the United States of America, as represented by the Secy. of War). U.S. 2,625,500, Jan. 13, 1953. A Prepn. for protecting the skin against mustard gas, lewisite, and similar chem. warfare vesicants comprises dichloramine-T 11.1 dissolved in triacetin 30.3 and mixed with an aq. soap mixt. (50% soap) 4.1, mucilago chondri 50.7, NaHCO_3 2.0, and bentonite suspension 1.8%. *C.A.* Vol. 48, No. 11, p. 6619.

Co-Carcinogenesis. Sh-Reactors and Other Substances Tested for Co-Carcinogenic Action in Mouse Skin. R. H. Gwynn and M. H. Salaman (London Hosp. Med. Coll.) *Brit. J. Cancer* 7, 482-9 (1953).—Acetone solns. of various quinones, estradiol, turpentine, cantharidin, mustard oil, Scarlet R, oleic acid, podophyllin resin, iodoacetamide, chloroacetophenone, and iodoacetic acid were applied for 140-200 days to the backs of mice treated previously with 9,10-dimethyl-1,2benzanthracene. Most of the substances had a hyperplastic action on mouse skin. Only the SH-group reactants iodoacetic acid and chloroacetic acid and chloroacetophenone caused a significant rise in tumor incidence. Both were also the only substances of those tested which increased the proportion of resting cells in mouse epidermis. *C.A.* Vol. 48, No. 11, p. 6570.

Detection of Heliotropin in Mixtures of Vanillin and Heliotropin. Angelo Castiglioni and Giacomo Bionda (Univ. Turin, Italy). *Z. anal. Chem.* 141, 189-90 (1954).—Treat 0.1 ml. of soln. to be tested with 0.2 ml. of a 10% soln. of cyclohexanone in 95% EtOH and add 2 ml. of 10% aq. NaOH . Shake, heat to boiling, and allow to stand. If heliotropin is present the liquid becomes turbid in 15 sec. To confirm the test, filter, wash the ppt. with water, and dry. Moisten the ppt. with a drop of H_2SO_4 and then, if heliotropin is present, the deep violet coloration characteristic of 2,6-dipiperonylidene cyclohexanone appears. *C.A.* Vol. 48, No. 11, p. 6649.



T.G.A. Scientists Note Progress

Seven scientific papers on advances made in cosmetic formulation and in raw materials which enter into them hold the attention of large gathering at semi-annual meeting in New York

SCIENTIFIC progress in the field of toilet preparations and raw materials which enter into their manufacture were considered in seven papers presented before the mid-year meeting of the Scientific Section of the Toilet Goods Assn. in the Waldorf-Astoria, New York, December 8.

As usual the meetings were well attended by members and the luncheon taxed the capacity of the Starlight roof where it was held.

The papers read were: "Practical Aspects of Suntan Formulation" by I. R. Hollenberg, Knapp Products, Inc.; "Acetylated Monoglycerides and their Potential Use in Cosmetics" by Dr. Everett G. McDonough and Walter W. Edman, Evans Research & Development Corp; "Evaluation of Dermal Phenomena in Product Development" by Dr. Thomas W. Tusing; "Inhibition of Dental Caries by Dentifrices—Laboratory Predictions versus Clinical Results" by Dr. R. S. Manly, Tufts College Dental School; "Meterspray and Its Application in the Cosmetic and Pharmaceutical Fields," H. R. Shepherd; "Effect of Estradiol or Methyltestosterone on Skin and Hair Growth of Rats," Amos E. Light; and "The Mercaptan-Disulfide System in Permanent Waving—A New Mechanism and its Practical Implications," Ross Whitman and Milton G. Eckstrom.

Officers of the Section are: Dr. F. J. Austin, honorary chairman; Dr. L. D. Apperson, chairman; Dr. Dan Dahle, vice chairman; and Harold D. Goulden, secretary. Abstracts of the papers presented follow.

Aspects of Suntan Formulation

INCREASING interest of the consuming public in sunburn preventative preparations creates a competitive situation within the industry, compelling the

development of products of greater efficiency, versatility, novelty and ease of application. The highly specialized functional nature of a suntan product requires that it be formulated accordingly, rather than by attempting to adapt existing cosmetic preparations to this purpose. The underlying principle in suntan formulation is the development of a product, which when applied to the skin, will form a continuous, water and sweat resistant film that will absorb ultraviolet rays which cause sunburn while permitting the tanning rays of higher wavelength to reach the skin surface.—*Abstract of T.G.A. paper by I. R. Hollenberg.*

Inhibition of Dental Caries by Dentifrices

INFORMATION has been collected from the dental literature regarding the therapeutic effectiveness of various substances for reducing the incidence of dental caries. Clinical studies on the use of medicaments in dentifrice are used as the primary criterion. Such data have been used to evaluate the reliability of predictions from two types of laboratory procedures.

One type is known as the saliva glucose test, which involves incubation of saliva with glucose and the test substance. The concentration required to inhibit formation of acid is measured. The second type of laboratory procedure is the salivary sediment test, which involves the formation of a film of sediment obtained from the saliva of caries active persons. This film is placed evenly over the surface of a glass electrode and acid formation rate is judged by the pH differential which the film maintains while in contact with a buffered glucose solution. After twenty minutes contact with the test chemical the activity of the film is redetermined in a

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An Amerchol such as the multi-sterol, liquid **Amerchol L-101** enhances softening, penetrating and spreading activity while holding desirable moisture to the skin. The surface active Amerchols function at the interface in oil-in-water emulsions to bring about these unique effects on skin and hair.

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control solution and the percentage decrease in the pH differential is indication of the degree of inhibition of the test chemical.

The findings by clinical and animal investigations on eleven substances have been compared with the results obtained with the two laboratory procedures. The saliva test gives positive results with the ten substances on which it was tested, which represents 70% false positive readings. The predictions from the salivary sediment technic are in better agreement with *in vivo* results.—Abstract of *T.G.A.* paper by R. S. Manly.

Meterspray

THE commercial impact over the past few years, made by the aerosol method of dispensing in the household and toilet goods field, has made this method of dispensing a possibility of packaging and dispensing products in every field. Many products, in both the cosmetic and drug field, are of such a nature that for their proper utilization, they require pre-determined dosages for proper functioning of the product. The aerosol metering device, developed by Mr. Larry Ward, is the answer to this need and is now commercially being applied in the field of perfume dispensing, but will be applied more generally in the field of cosmetics, pharmaceuticals, and even foods. The mechanics of the device are explained as part of the paper.—Abstract of *T.G.A.* paper by H. R. Shepherd.

Effects of Estradiol or Methyl-Testosterone on Rats

SINCE male hormone activity has been stated to predispose human baldness, experiments were designed to determine if excess androgen or estrogen affected the growth of hair and skin in growing male and female rats. The hair was clipped from the backs of the rats each week and they were inuncted daily with ointments containing either 30 γ or estradiol, 400 γ of methyltestosterone or a placebo for a period of over six months. Photographs were taken of the pattern of hair growth each week and the clipped hair was weighed.

Following a complete and uniform growth of hair at about 50 days of age the growth patterns and cycles then become irregular in all animals. The administration of methyltestosterone produced infiltration of connective tissue in the vascular fatty layer of the skin and depressed the irregular hair growth. Over the prolonged test period this androgen also stimulated sebaceous gland development. Estradiol depressed the size of the sebaceous glands and caused the skin to become quite thin. In some cases it also reduced the fatty layer about the hair roots and depressed hair growth. It was postulated that a neuro-muscular action or a pressor agent may be present during long periods of stress which will partially close the capillary bed of certain areas in the human scalp and permit the anabolic action of the androgens to cause connective tissue infiltration of the vascular fatty bed about the hair roots and permanently interfere with the immediate nutrition of the hair follicle. Since this action is probably irreversible, future

research in the cause and prevention of baldness should be conducted in techniques of prediction, ways of combatting neuro-muscular action and pressor substances that close the capillary bed of the scalp and methods of minimizing the anabolic action of the androgens. Experiments on smaller animals, while yielding data on general effects, are not too useful in explaining physiological actions in the muscularly inactive human scalp.
—Abstract of T.G.A. paper by Amos E. Light.

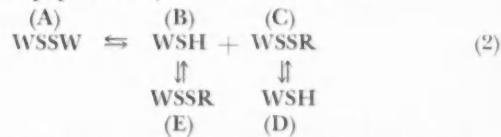
The Mercaptan-Disulfide System in Permanent Waving

THE reaction between hair disulfide and mercaptans, following Bersin and Steudel, has been generally represented:

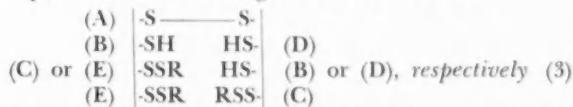


Later Kubu and Montgomery showed the reaction to be bimolecular, and proposed mixed disulfides, WSSR, as intermediates.

In this paper, the system is described as:



This equilibrium takes into account the immobility of the components and the special relationships, vitally important, shown in diagram form as follows:



wherein the letters "A", "B", "C", "D", and "E" refer to the components of (2).

In the rebuilding of the WSSW cystine, adjacent WSH's (B and D) may be coupled by oxidation, but any single-ended disulfide residues, WSSR, must first be converted to WSH by reaction with RSH, or may react with an adjacent WSH yielding WSSW plus RSH.

Five algebraic equations are developed in which the five "unknowns" in Equation (2) are equated to analytically-determined values. By solving these equations simultaneously, the numerical frequency of occurrence of the various components in (3) can be calculated for the sample analyzed, giving a complete picture of the system.

Experimental:

Analytical values for tresses of hair reduced and neutralized in the laboratory are given, and these values are then treated mathematically in accordance with the derived equations. Load-elongation indices which support conclusions drawn from the mathematical treatment are presented.

Conclusions:

A far more precise method for evaluating the efficacy of a permanent waving process than has been available to workers in this field in the past is presented. The mechanism proposed for the reducing and the oxidizing reactions is strongly supported by the data. Several ap-

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Modulan is extremely hydrophobic — does not form greasy emulsions and is practically odorless. Because of its outstanding compatibility with oil-in-water emulsions and with soaps and shampoos, Modulan is particularly recommended for use in creams, lotions, baby products, hair preparations, make-up, and ointments.

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proaches to the improvement of the permanent waving process will be inferred by the reader from this paper.
—Abstract of T.G.A. paper by Ross Whitman and Milton G. Eckstrom.

Dermal Phenomena in Product Development

ADVANCE or progress in the cosmetic industry depends upon new materials, products, or formulations, and these must be evaluated as to their cutaneous irritating or sensitizing potential prior to marketing. The methods in valuation must be practical, otherwise progress in the cosmetic field will not be encouraged. The conventional techniques employ animal and human studies. Animal studies are necessary for screening purposes where they serve as a valuable guide in studying dermal irritation, but must be supplemented in predicting human sensitization response to a delicately balanced formulation such as a cosmetic. Human studies must be designed to predict these responses in the final evaluation. Such studies employ patch tests methods and these are reviewed.

A proposed new method in predicting cutaneous sensitization of cosmetic materials is presented which combines the conventional patch test with a product use test.—Abstract of T.G.A. paper by Thomas W. Tusing, M.D.

Acetylated Monoglycerides

NATURAL fats and oils are classical raw materials in cosmetic formulations. In recent times, glycerides derived from these fats and oils have become available commercially and have been used by the cosmetic industry. The earlier ones were mixtures of mono-, di-, and triglycerides. Even more recently, pure distilled monoglycerides have been available and have been used widely. The acetylation of the distilled monoglycerides is a continuation of the trend toward specialized modifications of natural fats and oils.

A preliminary investigation of two different commercially available types, acetylated monoglyceride from lard (AML), and partially acetylated monoglyceride from hydrogenated lard (AMHL), indicated that the trend may continue since their desirable properties can be used advantageously in the formulation of cosmetics.

The potential use of these acetylated monoglycerides in the following cosmetic products was considered: lipsticks, lip ice pomades, baby oils, hair tonics, sun tan lotions, electric shaving lotions, spray deodorants, powder foundations, cream bases, hand creams, hand lotions, and shampoos.—Abstract of T.G.A. paper by Everett G. McDonough and Walter W. Edman.

A study of 2,400 shoppers in 56 cities shows that 11 of 20 shoppers walk out of the store when they can't find the item they are after; and they buy no substitutes.—Selling Research Inc.

An Architect in Cosmetics

IND of odd to hear of an architect in the cosmetic business, but that is the story of Arnold Perlman, who came to our shores in 1940 looking for a job. Today, he is president of Helene Pessl, Inc., manufacturers of Little Lady Toiletries. While he got his job as an architect, he also designed a lipstick for a cosmetic firm as an after-hours job. Then he had occasion to display it to Helene Pessl, a cosmetician, and while they were discussing the tough cosmetic market, they thought about the untapped children's field.

But it wasn't as simple as it sounds because store buyers smiled, but wouldn't gamble. Arnold found the solution: He sold the merchandise to buyers in children's departments rather than cosmetics.

The \$300,000 Little Lady factory in New Rochelle, N. Y., is testimony that Arnold's idea is clicking. Today Little Lady retail sales are about \$2,000,000.—Charles M. Sievert in *The New York World-Telegram & Sun*.

Credit and Business Failures

BUSINESS failures for the first four months of this year increased almost 40% over the same period in 1953 according to the latest report issued by Dun & Bradstreet. Liabilities involved in these failures increased by 62%. These facts emphasize how important it is for the drug wholesaler to keep his retail customers financially strong. No wholesaler should relax his credit terms to increase his sales volume. Such a practice encourages unsound buying among retailers and increases chances of their failure. We hear reports of retail druggists forced to close their doors owing two or three competing wholesalers \$10,000 to \$12,000 each for merchandise purchased on loose credit terms. These wholesalers have actually contributed to the failure of the stores involved. Examine your credit controls and make sure that you do not let a drug store go out of business.—NWDA Newsletter.

Of the nation's total food supply fully 16% in the last year data was taken, 1948, reached the consumer in the form of meals "eaten out." It was 14% ten years before. The trend is slow but sure.—Marketing Yearbook of Dept. of Agriculture.

Government is largely out of the picture. What any company can achieve today depends primarily upon its own initiative, ingenuity, push and judgment.—George Trundle.

MIDDLE AGE: When a night out is followed by a day in.—*The Country Drummer*.

Decade by decade the growth and prosperity of the United States have out-run the predictions of even the most optimistic. The pessimists have always been wrong.—Bruce Barton.

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- for ✓ **exceptional purity!**
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Creams, hair oils, hair dressings, permanent wave lotions...whatever your cosmetic product...the White Oil you use should be fortified with Vitamin E to assure greatest stability against odor and color development. Now Sonneborn Research Laboratories have developed and patented a Vitamin E-fortified white oil—CARNATION White Mineral Oil—to help make your finished product better...keep it factory fresh.

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The Tuberose

TOGETHER with jasman, the tuberose—*Polianthes tuberosa*—is the flower of the summer months. In the Lilaceae Amaryllideae family, this plant originated in Persia and in Mexico, and was brought to Provence toward 1632. It is now cultivated in the neighborhood of Grasse, principally in the valley of the Siagne. It is the perfume plant which requires the greatest degree of care—a terrain of average consistency, very permeable, fresh and irrigable, but still without humidity, for the bulbs are subject to decay. The land is prepared during the winter by ploughing, in the course of which the fertilizer is spread into the earth. At the time of planting, which is generally from March to May, the ground is levelled off with little beds, in which the bulbs are placed in straight lines, separated from each other by about 50 cm., with a space of 10 to 20 cm. on each line. The boards are then removed and little trenches formed for the irrigation, with a little passage to permit the flowers to be gathered at the time of blooming.

The bulbs are brown and elongated. They blossom forth only once, but there are then formed around the "mother-bulb" or the *montante* (the ascending) numerous bulbils (offshoots or godchildren, in the language of the region) which in their turn will blossom, but only at the end of three years. At the time of planting, the bulbils are detached from the mother-bulb, and the latter is put in place. The bulbils are then placed in a nursery and removed at the end of the second year, when they are ready to be used the following springtime, after a cleaning for the purpose of removing any old roots and diseased or rotted parts.

The fertilizer is very important. It is necessary to avoid any type which call the bulbs to rot. The best kind is oil-cake and farm dung, as well as compounds based upon phosphoric acid and potassium, the former constituent to encourage the floral production, and the second being an excellent fortifier to strengthen the bulbs against disease.

Care of the plant consists of frequent watering, ploughing and weeding.

The bulbs give rise to a floral stalk on the right, reaching up to 120 cm., provided with straight leaves in a tuft, and carrying on its extremity a bunch of flowers that are white or slightly rose-tinted in the interior, 5 to 6 cm. long, and resembling somewhat the hyacinth flower. These flowers have a soft fragrance, very penetrating, and developing particularly in the evenings. They are gathered in the full sun, as the blossoming goes on, and immediately delivered to the factories at Grasse, for the extraction of the perfume, either by the enfleurage method which results in the



pomade and, upon treatment, the pomade concentrate, or by volatile solvents which give the concrete and then the absolute.

The perfume cannot be obtained by distillation directly, for the flower cannot resist the strong conditions of such treatment. The concentrated alcoholic extract of pomade furnished a small quantity of essence by steam distillation, but this process has only been used experimentally.

The cultivation of the tuberose, which is now produced to the extent of about 15 to 20 thousand kilos, is unfortunately tending to disappear, the perfumery industry using it less and less, despite the excellence of its fragrance. Is this because of the selling price of the natural product which has for this reason been replaced more and more, or is it because of the creations of organic chemistry? Although otherwise perfect, the latter do not have the freshness and the softness that one found in former times in the perfumes of our fathers, which are brought back to mind by the delicious scents that can be breathed in the evening in a flower-bed bedecked with the tuberose, the one flower which alone is truly a bouquet.

The price of tuberose has been fixed this year at 650 Fr. Francs per kilo. The price of the concrete and the absolute are not yet known, these products no longer being the object of open commercial transactions of sizable importance, but the makers reserve their production for their usual customers or for their own laboratory use.

Within the next thirty years the annual income of the South will equal and possibly surpass the national average resulting in record earnings and consumer spending.—*American Business Outlook Forum, sponsored by the Mennen Co.*

TOP NOTES

by

FLOWER of the Month

January—Carnation
or Snowdrop

February—Violet
or Primrose



MAYBE
YOU
KNOW
HIM . . .

ONLY within the memories of its very oldest employees was there ever a time when Fritzsche Brothers did not have on its sales roster a representative of the McNamara clan. Today, warm, witty, unforgettable Jim is enjoying his well earned retirement after 34 years of Fritzsche service, while FRANK McNAMARA, no kin to Jim, but young, eager and perhaps presently a bit awed by the illustrious record of his predecessor, works hard to maintain the reputation our industry attaches to his name. Frank was born and reared in Brooklyn, N. Y. and educated there in its public schools and at Fordham University where he received his B.S. in chemistry. Shortly thereafter he devoted 2 years of service to the U. S. Chemical Corps as a toxic gas specialist. While stationed in France in this capacity, he gained a wholesome respect for these lethal concoctions when on numerous occasions his duties required the transfer of deadly mustard and chlorine gases from large containers to smaller ones. Completing his obligations to Uncle Sam, he returned to the United States and took temporary employment to get practical sales experience before coming to Fritzsche Brothers. Now, as a regular member of its staff, Frank is working assiduously to fulfill his destiny and reputation as a McNamara. Outdoor activities have occupied much of Frank's spare time—golf, tennis, swimming, softball—but since his recent change of status his interests have abruptly shifted—and understandably, of course—to Ann, his very lovely bride of 2 months.



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RECOMMENDATION of the Month

*Mousse
Cinderella*

Like Cinderella adorned in the raiment of a princess, your less expensive perfume will take on an aura of enhanced richness and fragrant beauty with MOUSSE CINDERELA added to its composition. In addition to its outstanding fixative properties, this delightful and very original specialty lends a well rounded finish, characterized by sweetness, warmth, stability and depth. To improve the perfume quality of your composition, add MOUSSE CINDERELA at \$17.00 per lb.; \$1.25 per trial ounce. You'll revel in such loveliness at such a modest cost!

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A THOUGHT for the Month

"Great minds have purposes, others have wishes. Little minds are tamed and subdued by misfortune; but great minds rise above them." —WASHINGTON IRVING

Good Scents FOR PERFUMERS



INSPIRATIONS FOR MOTHER'S DAY

Of all people, Mothers deserve the best—and for her Day, *every* day, these selected fragrance specialties are particularly appropriate—soft, gentle fragrances to match the tender beauty that abides within the heart of every mother . . . everywhere.

DELISSE BOUQUET . . . \$15.00 lb.

Attractive, light, diffusive, low cost floral, initially a lily of the valley which, upon drying, becomes an indefinable bouquet of lasting beauty and appeal.

FLORAL BOUQUET . . . \$20.00 lb.

A modern fresh, floral fragrance of delicate character and with unusual tonal qualities, harmoniously blended with amber, balsamic and musky notes, possessing exceptional tenacity. This is an intriguing Parisian motif in a modern vein and discreetly elegant in tone.

FRENCH AIRE \$35.00 lb.

A warm, caressing fragrance, combining airy, fresh floral overtones with oriental spices and a deep woody note of neutral character.

MODERN BOUQUET . . . \$16.00 lb.

A chic, sophisticated fragrance with counterpoint of appealing beauty. Its fresh, penetrating tonality with slight flowery-fruity undertone produces a delicate yet powerful and tenacious fragrance.

MARJAH \$50.00 lb.

A woody, amber, spice tinted base odor modified with rose, jasmine, ylang and other floral characters, and livened with a citrus, aldehydic, somewhat green, herby top note, enriched and well fixed with selected animal fixatives.

WHITE TOUCH \$30.00 lb.

This is a woody based fragrance with both floral and oriental overtones, attractive top notes and subtle, leathery undertone which combine to make it a perfume of unusual beauty for modern extract work.

FLORAL BOUQUET . . . \$37.50 lb.

An intensely warm, flowery bouquet with pronounced lily, jasmine, ylang characters, enriched with certain green notes, carnation and rose.

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son the differences between many of today's medi-
cines! This is the key to their greater acceptance and
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No, little boy . . . not that *old* medicine! Not the medicine that used to make you wince and cry every time you took it. Indeed, no! Now you're going to get a nice new kind of medicine. It won't make you cry . . . actually, it will make you lick your lips and really wish for more! . . . And that is one of the big differences between many of today's medicines and those of yesterday—PALATABILITY! This is the key to their greater acceptance and to the patient's cooperation in maintaining a prescribed dosage schedule for most beneficial results. . . . Proprietary, drug and pharmaceutical manufacturers will find our specialized experience in this field of flavoring extremely helpful in attaining the goal of greater palatability for their oral products. May we invite your consultation — without obligation and confidentially, of course.

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NEW PACKAGING and PROMOTIONS



Counter unit

THE TONI CORP. introduces its new Pamper Shampoo in a Robert Gair Co. counter display carton. Holding three different sizes of the shampoo, it features separate interior packing, forming a stepped display. A cartoon lamb at the back illustrates the motto, "Gentle as a Lamb."

ELIZABETH ARDEN presents a pressurized metered atomizer flacon of Blue Grass Perfume. It measures the exact amount of perfume for an application, shutting off the spray automatically. Every flacon is estimated to hold approximately 220 applications of Blue Grass Perfume. The black flacon comes in a black suede case, and has a gold cap which need not be removed for spraying. Lettering is also in gold. The price is \$3.50.

TONI DIVISION of the Gillette Co. will market Casual, a new pin-curl permanent. It is claimed to take only 15 minutes more than setting the hair in pin-curls, requiring only one application of waving lotion after the hair is pin-curved. President R. N. W. Harris estimates that in 1955 about one out of every four home permanents sold will be a pin-curl permanent, with sales increasing nearly 10 times 1952 pin-curl

sales. He also points to high repeat sales, asserting that its users home wave three to four times more often than rod-type home permanent users. Casual will be backed by advertising on five network television and radio programs, a TV spot campaign in major markets, four-color and black-and-white ads in leading fashion, service and mass magazines, and full page newspaper space. The \$1.50 kit contains three ounces of waving lotion, a supply of coated hobby pins and six midget curls for hard-to-wave neckline hair.

PARFUMS CORDAY has received the award for the best package in the group of "Glass and Plastic Containers" in the 1954 Aerosol Packaging Contest. The award, which was made at the 41st annual meeting of the Chemical Specialties Mfrs. Assn., was for Corday's Perfume Atomizer, a quarter ounce glass perfume flacon encased in a highly polished gold cylinder. Available in six fragrances, it retails for \$3.50, \$5.50, and \$6.50, the price of the perfume alone. The aerosol measures just three inches from top to tip; it is leakproof, spillproof and permanently air-tight, and was designed so that despite the gas content of the product, it contains a full quarter ounce of perfume.

HAZEL BISHOP is promoting its \$1.25 Complexion Glow via a display holding a 1-dozen assortment featuring three shades.



Hazel Bishop display

PROCTER & GAMBLE CO. is introducing Pin-It, a self-neutralizing pin curl permanent for short hair styles that require waves rather than tight curls. The product is being launched with advertising through radio, TV and 13 screen, teen-age and beauty magazines. The theme is "Be a pin-up girl with a Pin-It curl." The product sells for \$1.50.

LILLY DACHE's Coloramic Foam Glam-poo, to wash, condition and highlight the hair, comes in a pink and white pressurized container. Available in 12 shades, the product is said to look like colored whipped cream. It is priced at \$2.50.

BOURJOIS, INC. is introducing a new fragrance, Roman Holiday, in a flower



Flower cart cologne combination

cart package called Colognes à la Carte. It carries two 1-oz. bottles of cologne. The \$1 package is claimed to be a \$2 value. It will be backed with an advertising campaign via 22 magazines, including a full-page, full-color advertisement in *Life*.

HAZEL BISHOP offers a combination boot holding and displaying three 50 cent bottles of Long-Lasting Nail Polish, together for \$1. A self-service counter display container holds 24 boots. This deal will be featured on all Hazel Bishop TV shows, in magazines, newspapers and publicity.



Lady Esther display

LADY ESTHER offers the retail trade a permanent pin and gold counter display for its Puff Magic compressed powder. It features a dust and pilferage proof plastic window front, a shade chart representing the exact product colors, and a 48-unit stocking capacity.

AMERICAN CONSOLIDATED MFG. CO., through its subsidiary, Patricia Still Labs., will market a clear plastic fingernail coating designed to lengthen and strengthen fingernails. Called "Patti-Nail," the product is an acrylic (reinforced adhesive) plastic powder, which is mixed with a liquid hardener and applied to fingernails to form a transparent secondary nail. Quick-drying, it is said to strengthen the nails while actually growing with them, to make them easier to polish, and to form a coating that lasts three to four weeks. Patti-Nail home kit includes 10 aluminum foil adhesive forms, which fit snugly around the edges of the fingernails to form a mold. After the mixture dries, the forms can be removed. Distribution of Patti-Nail, at present only through beauty parlors, will be expanded to drug stores early this year.

YARDLEY OF LONDON, INC. is promoting a special consumer offer of three cakes of English Lavender soap and a bottle of English Lavender for \$1.50. This special package features the new enlarged cakes of lavender soap, which are sold in regular boxes of three for \$1.50.

GOURIELLI'S Men's Shop was featured in a three-page story in a recent issue of *Life Magazine*. The Shop, located at 16 East 55th Street, New York, features a men's apparel shop, a gift shop featuring Gourielli perfumes and

colognes, as well as such items as silk scarves and feminine accessories, and a barber shop. Perhaps the most unusual feature of the Shop is the waiting room, complete with oxygen "Pick-Up" and ticker-tape machines.

TUSSY COSMETIQUES announces two new federal tax-free packages, an introductory Medicare Kit and the Medicare Stick, for retail selling starting February 15. The new Medicare set, a smaller version of the larger size introduced in April 1953, combines Creamy Masque and Medicated Lotion. Use of Creamy Masque is recommended in place of soap, as a skin-cleanser, to be followed by the application of Medicated Lotion to help conceal blemishes and to heal acne pimples. Both products contain hexachlorophene. The Masque comes in a 1 oz. jar, the Lotion in a $\frac{1}{2}$ oz. bottle; the combination, in a self-display shipper, sells for \$1.10. Medicare Stick, a solidified version of Medicated Lotion, is intended to be used as an antiseptic touch-up. It too contains hexachlorophene. It comes in a small white case, the size of a lipstick, to fit handbags or jacket pockets. It is fastened to a self-display card with full instructions. The Stick retails for \$1.

PARFUMS DE BONTOUX offers three different perfume scents: Star of the East, Ravissement, and Mignonette. They are bottled in a $\frac{1}{2}$ dram spillproof purse flacon (\$1.10), and in hand-blown French bottles of $\frac{1}{4}$, $\frac{1}{2}$ and 1 ounce sizes, selling respectively for \$1.90, \$3.25, and \$6. Packaging is in velour-paper covered boxes.



Parfums de Bontoux package

ELIZABETH ARDEN's Firmo-Life Treatment, to combat sagging contours, puffiness and crepey skin, is now being introduced in a book-shaped package, called the Firmo-Life Beauty Story. Publicity states that, for the over-thirty skin, the happy ending is a convincing illusion of youth. The package holds Firmo-Lift Lotion, Salon Treatment Oil and Perfection Cream. A booklet with directions is incorporated in the cover. The package, said to be a \$7 value, sells for \$5 during January only.

LILY DACHE's Invisible Net has won the Best Package Award from the Aerosol Festival Committee of the Chemical Specialties Mfrs. Assn. at its 41st



Aerosol winner

annual meeting. Invisible Net is presented in a white and pink aerosol can. It is priced at \$1.35.

KINGS MEN LTD. offers the retail trade a special Valentine Heart to fit onto their sets of gold or crystal flagons. It reads "Kings Men for your pleasure with fondest wishes," and provides space for the customer's signature.

STYRON-BEGGS CO. is marketing Pine Oil Disinfectant, a new general disinfectant and deodorizer for floors, bathrooms, toilet bowls, sinks, refrigerators, and for use in bathing dogs. Retail distribution is East of the Mississippi River.

THE HOUSE FOR MEN has awarded prizes totalling \$1,000 to the 20 winners in a contest for women only, dealing with the reasons why they are glad the men in their life use the company His after shave lotion. Each also received a bonus surprise gift of a package of His products.



• BULGARSKA ROSA •



STATE ENTERPRISE

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A new quality of alpha iso methyl ionone.
Its splendid orris-violet odor will
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Ask for our pricelist for aromatic chemicals

Polak & Schwarz Inc., 667 Washington Street, New York-14 (N.Y.)

TONI CO. has released a new 25-minute color film on good grooming, aimed at the teen-age market of 5,000,000 high school and college girls. Called "Head Up for Beauty," the film is available without charge to health, home economics and vocational guidance instruction and for television programs.

HELENA RUBINSTEIN is undertaking its annual combination promotion of Estrogenic Hormone Cream and Oil, regularly \$6, for \$3.50. An innovation, Estrogenic Hormone Cream plus Oil is also offered together with Silk-Tone Special Foundation with Estrogenic Hormones, said to be a \$6.50 value, for \$3.50. In the far Western and Southwestern states, the Estrogenic Hormone Face Cream and Hand Lotion, regularly \$5, is now offered for \$3.50.



New Solarcaine bottles

PEAU D'OR SALES CORP. is marketing Solarcaine sunburn lotion in new Owens-Illinois Glass Co. bottles.

HAZEL BISHOP is said to be preparing for introduction of an all-purpose pressed powder in compact. It would be marketed in two sizes, the larger one selling for about \$1.

PRIMROSE HOUSE Chiffon Cleansing Cream in the 3.4 oz. size, regularly \$1.75, is retailing for \$1; the 7 oz. jar, regularly \$3, is \$1.50. The promotion will continue through February 5.

LADY ESTHER is launching its 69 cent Special of the regular 83 cent, 6-oz. size of 4-Purpose Face Cream with a national newspaper-supplement, television advertising campaign. It will cover 10 major markets by television, 29 by metropolitan dailies, and a national circulation coverage of 35 million per week via Sunday supplements.

BARBARA GOULD offers Velvet of Roses Dry Skin Cream, usually \$2.50, for \$1 per jar through January 31. Hand Cream, which usually sells for \$1.75, will retail for \$1 through January 31.



Albert Plaut, advertising and promotion manager of Dorothy Gray, Ltd., presents Dorothy Albee, director of advertising and promotion of Station WILK-TV, Wilkes Barre, Pa., with a first prize check of \$250 as winner of a nationwide station promotion managers contest for her part in merchandising and promoting Lehn & Fink products.

Wins Lehn & Fink TV Show Tie-In Promotion Contest

Lehn & Fink Products Corp. has announced that Miss Dorothy Albee, Director of Advertising and Promotion of WILK-TV, Wilkes Barre, Pa. has won first prize of \$250 cash in the company's nationwide Station Promotion Manager Contest, for her part in promoting and merchandising the products featured on the firm's "The New Ray Bolger Show" over the ABC-TV network.

DOROTHY GRAY offers a Dry Skin Special combination of Quick Cleanser Cream and Satura Moisture Cream, said to be



Pilferproof combination display

a \$2.25 value for \$1.50. The cleanser in a bottle, and the Satura cream, in a jar, are held together in a pilfer-proof Robert Gair Co. folding carton display.

GUEST PAC CORP. reports that 11 per cent of the people receiving samples of Listerine Antizyme toothpaste converted to that product. Guest Pac kits were distributed to 10,000 members of the American Automobile Assn. in Michigan; a survey made six months later, based on questionnaires mailed to a random sample of 400, with a response of 188, showed a conversion rate of 10.6 per cent. On this basis a new Antizyme user would have to use the product less than seven months to pay back the cost of sampling.

CUTEX has announced three new merchandising units. The Diamond Showcase displays both lipstick and polish to encourage combination sales. The



Television performer Steve Allen with sponsor's Diamond Showcase

top section, for the lipstick, is enclosed in clear plastic to help eliminate pilferage. Diamond Polish retails for 25 cents, Pearl Polish for 39 cents; Super-Lanolin Lipstick retails for 59 cents. Oily Polish Remover for 25 cents. The second unit for the merchandising program is a Spillpruf Polish display. It has a wire rack, made in black wrought iron, with each bottle individually pocketed. A moving head, which bobs at the slightest touch, serves as an attention-getting device. The third unit is a counter display card for one-dozen Nail-flex packages, a cream for brittle and split nails. The entire Cutex line will be promoted via Today, Home and Tonight unit, three NBC-TV network programs, as part of its 1955 advertising program. One of these programs stars Dave Garroway, the other Arlene Francis, and the third Steve Allen; their combined coverage is said to represent 94 per cent of U.S. television homes. Both Cutex Spillpruf nail polish and Super-Lanolin lipstick will participate.

Soap Section



Uniformity of Soap Quality

Factors to consider in the selection and use of raw materials from different countries . . . Different properties of oils and fats derived from different localities

PAUL I. SMITH

UNIFORMITY of quality is something that is jealously guarded by manufacturers who are very conscious of the need to safe-guard their product's reputation. To maintain this, the uniformity of raw materials and processing techniques needs to be ensured. One factor which is sometimes overlooked in connection with oils and fats is that, although qualitatively the contents of the soap kettle may be constant from batch to batch, the ingredients themselves may vary in properties due to their different countries of origin, e.g., oil derived from copra obtained from the South Sea Islands is known to differ marginally from that extracted from copra exported from the South China, Hainan Island.

There is a greater proportion of high molecular weight fatty acids in the South Sea Islands oil than is found in the coconut oil from Hainan Island copra. Another significant fact is that in the South Sea Islands oil the proportion of unsaturated acids is greater than the South China oil. This is the general pattern found throughout the soap making industry. It cannot safely be taken for granted that oils and fats of the same type and price, but derived from different localities, have necessarily the same properties.

Take another example, olive oil from Palestine and Italy. Here there

is found to be a very significant difference in the percentage of saturated fatty acids, some 13.9% in the Palestine oil as against 18.8% in the oil from Italy. In the two types of oil, the percentage of unsaturated acids also varies quite considerably; 77.5% oleic and 8.6% linoleic acid in the Palestine oil as against 64.6% oleic and 15% linoleic acid in the Italian oil. Even oil from two different regions in Italy differ quite markedly in constitution. Of course, it might be argued that these differences being marginal have no real effect on quality and that oils from different sources can be blended to give a uniform type of raw material.

This is true to a large degree, but there is no denying that marginal differences in the properties of raw materials must inevitably reflect marginal differences in the quality of the finished product. It is the responsibility of the selling side of the organization to say whether these differences are worth troubling about, and it will be a brave sales manager who ignores them.

New Uses for Sperm Oils

Experimental development work on sperm oil, hitherto considered to be for specialized technical products,

shows that sperm oils possess some quite remarkable properties. They are, for instance, readily compatible with petroleum oils and greatly improve their usefulness as lubricants and penetrating agents for all types of heavy-duty-metalworking operations. Moreover, sulphonated or sulphurized sperm oil is a valuable low viscosity cutting oil base. Some attention is being given to the use of sperm oil in metallic soaps for bearing lubrication and for solving problems so far unsolved by use of conventional lubricating agents. Soap manufacturers are also becoming interested in sperm oils as ingredients of heavy industrial soaps required for lubricating runways in shipbuilding yards and for similar specialized applications.

Pure Arachidic Fatty Alcohol

IT is of interest to note that technically pure arachidic fatty alcohol (N-Eicosyl alcohol), a saturated normal primary fatty alcohol, is now being produced in quantity primarily for the cosmetic and toilet preparation industries. This product is being produced by high pressure hydrogenation from natural arachidic acid and has a purity of about 95 per cent. The physical characteristics of this fatty alcohol rather resembles those of cetyl and stearyl alcohols, i.e. it is pure white, odourless and waxlike substance. The iodine value of arachidic fatty alcohol is 1 to 2, saponification value 0.2, hydroxyl value 184 to 185 and the setting point, about 60 deg. C. It is suggested that this fatty alcohol would be of value as an additive to soap to improve both its texture and appearance, giving a highly polished surface for tabletted soap.

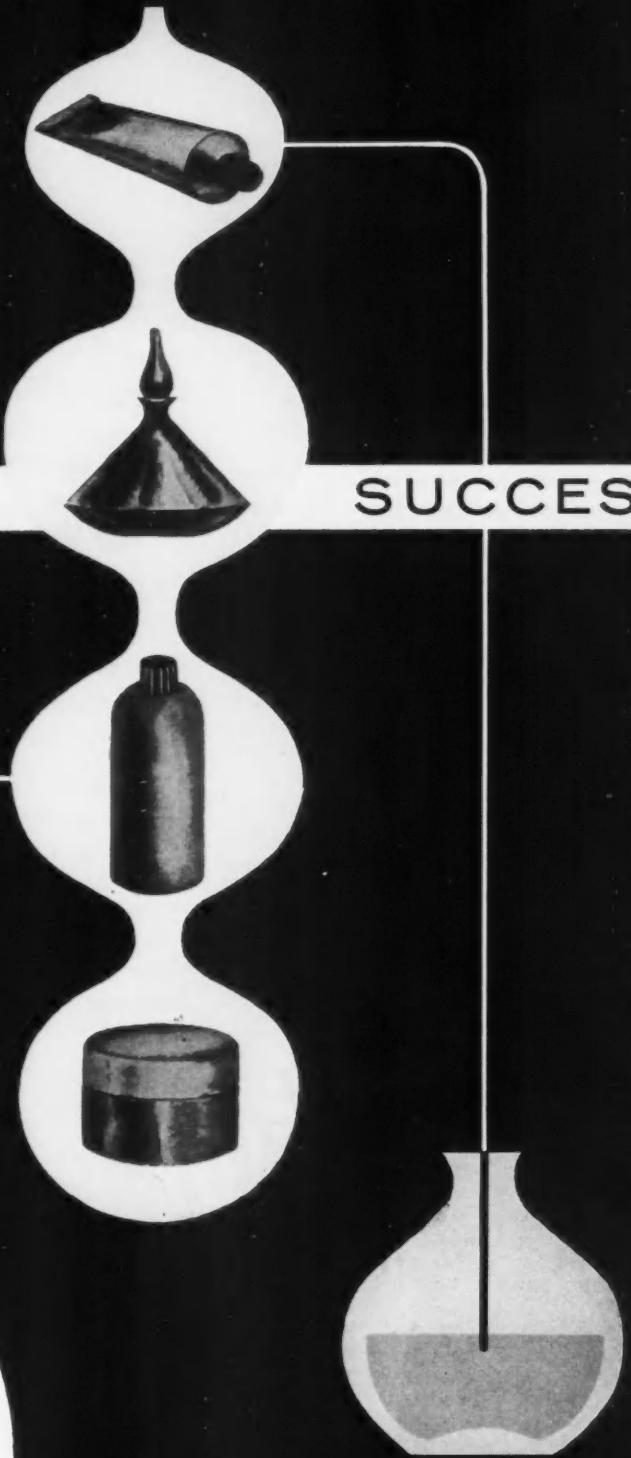
The development of any new fragrance in the *Synfleur* laboratories is not an end in itself. It is, rather, the means for helping to market successfully another product.

This guiding principle has meant, over the past 65 years, that *Synfleur* fragrances have served as integral impulses in the sale of cosmetics, toiletries, shampoos and like products.

They can serve you as well, and our skilled technicians will be glad to demonstrate exactly how.

THE MEANS FOR

SUCCESS



Founded 1889 by Alois von Isakovicz



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Just right for Lavenders

CETONE L

Many years of use by progressive perfumers have convinced them of its importance in Lavender compositions. A water-white liquid, CETONE L is readily soluble in most aromatics and is especially developed to inject the fresh, pungent top note of true Lavender into perfumes of a Lavender nature. 3% to 5% of CETONE L will put back the zest which often is lost in dilution.

Trial Ounce — \$1.00

Whatever the product, whatever the fragrance, let Rhodia help you with your perfume problems.

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The Editorial-“WE”

Business Census Requires Support

EARLY in 1955, the United States Department of Commerce will begin to collect information for its 1954 Censuses of Business, Manufacturers and Mineral Industries. It is difficult to imagine a more useful function carried out by the Department than its studies of American business. Whether one wishes to know how large is a market, where industries are located, how much competition is to be found, or countless other questions that come to mind, the business censuses provide the answers. Estimates by trade papers, trade associations, or research organizations are not only less accurate, but are themselves based to a certain extent upon information supplied by the business census. Because the last census was taken for the year 1947, it is quite clear that the figures in those studies are now entirely outdated, and can today be used only as a part of an historical study. As the Committee on Business Statistics of the Chamber of Commerce of the U.S.A. stated, "so many changes have occurred in the dynamic American economy in recent years that existing information is hopelessly out of date."

Thus, the forms will soon be arriving at the offices and factories of American business, and it is possible that, at first glance, they will look rather imposing. The figures requested may take more than a few spare moments to gather. But the figures when gathered, and when correlated with millions of other replies coming to the

Department of Commerce, will save much more than a few moments to all of us. They will save hours, and they will save money. They will give information that we desperately need, and that will be more accurate than any that could have been obtained elsewhere; they will make unnecessary large expenditures to gather such information; and they will aid in channelling one's marketing and selling plans in the best possible direction.

Cooperation with the Department of Commerce, by prompt and careful reporting of accurately gathered information, is strongly urged.

Forward March In Taste and Smell

TWO items that appeared recently in the press again fortify our conviction of the importance of taste and smell in modern merchandising. The first of these is an article in the well-known *American Druggist* bearing the title, "Taste of Many of Today's Drugs Equals Their Effectiveness." This article was a competent and interesting summary and review of information generally known by drug manufacturers and by druggists. Once a medicine had to taste bad; otherwise everyone knew it could not be effective. Today the science and art of flavor-blending masks most of the obnoxious tastes and imparts to the bland medicines an aroma of strawberry, chocolate, or peach, among others.

Yet, what stopped us about this article was its title or headline. Just imagine, we said to ourselves, in this

age of miracle drugs, of potent germ-killers and infection-fighters from the sulfonamides and penicillin down to cortisone, it is impossible for a responsible publication to proclaim that the taste of many of these drugs is as remarkable as their effectiveness.

Once it was necessary to promise a child a toy if he would take his medicine. What with these wonderful flavors, will we have to promise a child his medicine if he takes care of his toy?

Another Potential Seen for Aerosol

RETURNING again to the citrus scents for display material, this project may be the beginning (or the opening spray gun) for a new application of aerosols. We have had the aerosol room deodorant, now enjoying wide acceptance from the American public. Why not use aerosol in order to impart a specific scent for merchandising purposes? The fragrance of coffee on a display sign—or even on the window—to reach the noses of passers-by and attract them to the restaurant might be as effective, in its way, as the neon lights to attract the eyes. The possibilities may lead in many directions, and their exploitation can very well lead to a new science, which we suggest be called "squirtonics."

Washington Discloses Excise Tax Receipts

THE United States Government, through its Department of Internal Revenue, collected almost seventy billion dollars in the fiscal year ending June 30, 1954, thus increasing its collections by about a quarter of a billion dollars over the previous year. Of this money, retailers' excise taxes on furs, jewelry, luggage, and toiletries amounted to \$438,332,000 in the period ending in mid-1954, a decrease of almost sixty million from the same period of a year before. Nevertheless, no comparison can be made, because of the reduction in taxes, for one thing, and because of the change from a monthly to a quarterly system of collection. Toiletries, the item of first interest to us, brought the United States approximately \$110,000,000, a decrease of about five and a half million from the previous (but not comparable) period. Based upon these figures, total retail sales of taxable toiletries, exclusive of tax, amounted to about \$550,000,000 during a twelve-month period. For those who would like to sharpen their pencils and see if this figure can be reconciled with the billion dollar sales that have been estimated and reported, the biggest portion of the difference is probably in nontaxable toiletries, and particularly toothpaste.

Canadian Trade Can Be Facilitated

WE call the attention of our readers to the words of James A. Calder, president of the Canadian Manufacturers Association, who complains that exporters from our northern neighbor find the job of selling in the United States "frustrating and difficult." Among the complaints, Mr. Calder cites the threat of "sudden hikes in specific tariffs," import quotas that are imposed arbitrarily and unilaterally, and customs procedures that are complex and involved. Although the toilet goods and related fields are doing relatively little importing from the Canadians (and certainly more exporting, although not a great deal of that), it would seem to us that facilitated trade relations between the two countries is of vital interest. The economies of our two countries have become so well integrated with each other that everything should be done to make trading easier. Only in rare instances is there serious competition between an industry in the United States and one in Canada; in general, there is a mutual complementing which is probably unequalled between any two other great nations on earth.

Discount Houses Increasing Their Sales

A report by the National Distribution Panel of the United States Chamber of Commerce discloses that the sales of discount houses, at the retail level, have reached the twenty-five billion dollar mark, constituting some 18 per cent of the total sales volume, and that such sales are "on the rise." Among the products in which sales of such houses are increasing, the Chamber lists cosmetics. Whether this is a healthy or unhealthy sign for the toiletries industry is a complex question, but as an advocate of fair trade, we have not been particularly bullish on the benefits accruing from discount sales. Whether a nationally advertised cosmetic is used as a loss leader to bring people into a store where other unadvertised merchandise is being sold, or whether a small number of units of the advertised material is a come-on to help sell something unknown and probably inferior, the public at large cannot benefit, and therefore the manufacturers are bound to suffer. Prices of some products sold to the American consumer may today be out of line with the general price structure of the country; this might be true of certain foods, and particularly coffee. But prices of cosmetics are lower today, in relation to the buying power of the dollar, than they have ever been. To

slash these prices at cut-rate stores, discount houses, and the like, can only generate the feeling that the products are overpriced; can only create a myth that they can be cheapened considerably; and can only weaken the faith of the consumer in the good will and good name of the nationally known manufacturer.

Justice Department Threatens Fair Trade

WILL the entire fair trade picture be upset by a demand that the McGuire Act be repealed—a demand that may be forthcoming from the present Administration, through its Department of Justice? This seems to be more than an outside possibility. If the Administration throws its forces behind a struggle to repeal fair trade, and with a large part of the American public naturally under the impression that repeal will mean lower prices, then fair trade may not survive. What is important for manufacturers to realize is that the use of their products as loss leaders—or as price footballs, to use an expression that is becoming increasingly prominent—does not mean larger sales. In this respect, we are very much interested in a study by the trade journal, *Supermarket News*, in which it was disclosed that toothpaste would become the nation's most prominent "price football" in the event that the McGuire Act is repealed. This is an interesting revelation, for it would be difficult to name a product that comes within the purview of cosmetics in which there is a market so near to complete saturation as with toothpaste. The price cutting cannot benefit the manufacturers as a group, as an industry; it probably cannot benefit any individual manufacturers; if it results in some increased sales for a short time, it will mean smaller sales until the inventories in the home are used up. We hope all this does not come to pass, and we certainly think that the leaders of industry should work in the direction of protecting, preserving, and strengthening fair trade.

A Large Penalty For a Small Sum

THE sum of \$110,000,000 is not to be lightly dismissed, but it makes such a meager contribution toward the total of almost seventy billion dollars that the Commissioner of Internal Revenue obtains from the pockets of American men, women, and business, that one wonders if the penalty paid for the good-grooming tax is worth the return to the government. Not only is an industry penalized, with lower sales, but the American consumer, and particu-

larly the American woman, is punished for wishing to be proper and presentable in appearance. We are grateful for the reduction to 10%, but we oppose any tax on this particular and singled-out industry. It is true that cosmetics are grouped with three other classes of products, all subject to the same retailers' excise tax; namely furs, jewelry, and luggage. Without presenting an argument against any other industry, and particularly one struggling so hard for existence as the fur field, we hardly can understand how the overwhelming majority of toiletries can be considered luxuries, in the sense that furs or jewelry might be. If the word *luxury* means anything, it means something that is not essential to the pursuit of life. Now, it may be argued that only food, shelter, and clothing are necessities under such a concept. This is true, in a very literal and narrow sense, but it is equally true that the woman of twentieth-century America, as we know our life and culture, cannot be expected to go to business, to pursue any social life, to take care of the exigencies of personal hygiene, without the liberal use of cosmetics. The latter hardly make her life a luxurious one; they are, in fact, necessities, if one considers it necessary to preserve our modern way of life.

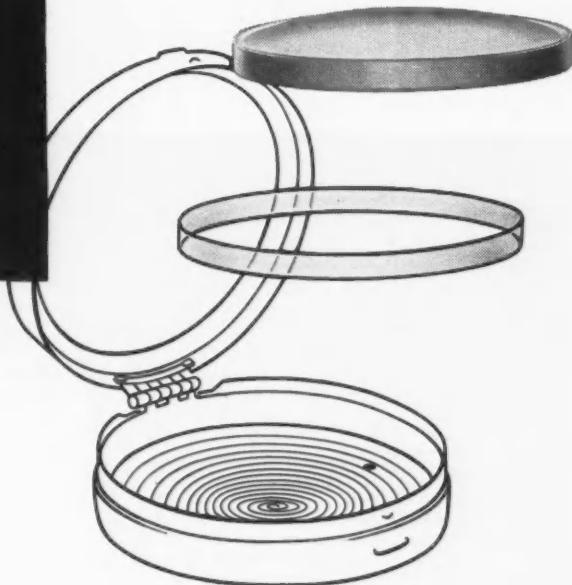
Carrying Coals To Newcastle

WE said that two items in the news on the subjects of taste and smell had caught our fancy, and the first is on pleasant-tasting medicines. The second deals with spray-scenting of display material so that the odors of citrus fruits will be more apparent to the customers—certainly a thought with limitless possibilities. In fact, citrus fruit for years has been artificially colored, in order to make it more eye-appealing to the consumer. The public had to be protected, so that the law required that the message "color added" be stamped upon the fruit. Now, if some of this scent strays from the display to the fruit itself, will the law require that the fruit be labelled "scent-sprayed"? And, if this does occur, it will be more than carrying coals to Newcastle; it will be throwing perfume on the violet, which Shakespeare once described as "wasteful and ridiculous excess." But a lot of perfume has flowed through the stills since the Bard wrote his famous lines some three and a half centuries ago, and some of it may have fallen on the violet.

PROCTER & GAMBLE CO. has expanded marketing tests of its new low-suds detergent, Dash, from two to five cities.



Another example
of a Scovill
"Special Design"



A Refillable Vanity

This refillable vanity for compressed powder or rouge is another example of Scovill's outstanding ability in the cosmetic container field. The pan is held by a polyethylene ring that is permanently fixed under the reduced neck of the container shell.

The pan is easily removed by inserting a straight pin or a hairpin in the small, off-center hole in the bottom of the container.

Lid opening is made easier by new, elongated rib styling on cover and body, and there's a choice of a glass mirror and brass bezel or a less expensive, *one-piece* metal mirror!

Designed to fill a special need—the desire for fine, polished brass containers, this vanity has all the special features to make it as popular as it is practical and to *increase refill sales*.

Ask your Scovill representative to demonstrate this latest development of Scovill's Drug and Cosmetic Container Division. He'll tell you how we can help you find *just* the container you've been looking for!

Many manufacturers who have container problems call us. We feel certain that our engineers will be able to help you as they have so many others.

SCOVILL-MADE Containers

Scovill Mfg. Co., 62 Mill Street, Waterbury 20, Conn.

Book Reviews

ELEMENTS OF FOOD ENGINEERING, VOLUME I. by M. E. Parker, E. H. Harvey and E. S. Stateler. Reinhold Publishing Corp., 1952. 386 pages, 6x9 inches, illustrated and indexed. Price \$8.75.

This book, one of three volumes, treats the engineering factors involved in food processing. Subsequent volumes will discuss other phases of the industry.

The treatment of maple products on page 232 seems scanty. The classification of gums is arbitrary. Mantell's work on this subject is not mentioned. The newer artificial gum-like substances are not included.

The sections on flavors, condiments and essential oils are utterly inadequate both as to engineering and processing. One senses the authors' acquaintance with these phases of food work to be wanting. (The subject is a vast one).

All the subject matter listed in the table of contents is treated in one way or another. But too often a chapter could have been devoted to some subjects which receive not more than three pages here. Vanilla is a case in point.

The authors have a gem of an idea for this series. One hopes later editions will be more complete. The present effort is really an "introduction" and as such is a good one.—*M. G. deNavarre*.

HISTORY OF AMERICAN INDUSTRIAL SCIENCE. Courtney Robert Hall. 6x9 in., 453 pages, cloth covers. Library Publishers. 1954. Price \$4.95.

The basic purpose of this interesting work is to help make the general public aware of the need for the continued improvement of our industrial system along the lines of greater productivity and efficiency and into new lines of helpful development. This is done in terms which most people can readily understand. It is not a work on labor problems or on general social or eco-

nomic history, all of which are covered in numerous other books. The work contains 14 chapters. Chapter I traces the development of industry from Colonial times. Other chapter headings are: Enter the Industrial State, Transportation in the Twentieth Century; Transportation in the Air, The New World of Chemicals, the Electrical and Communications Industries, Mining and Metallurgical Industry, Non-Metallic Minerals, Rubber and Rubber Products, Pulp, Paper and Print, Feeding, Cleaning and Clothing the Millions, Precision in American Industrial Science, Industrial Science and National Defense, and A Year of Industrial Science. A bibliographical note and an index add to the value of the volume.

MONOMOLECULAR LAYERS. Edited by Harry Sobotka. 6x9 in., 207 pages, numerous diagrams, cloth covers. American Association for the Advancement of Science. 1954. Price \$4.25. (Price to AAAS members \$3.75.)

This useful work is amplified from a symposium presented December 27, 1951 at the Philadelphia meeting of the American Association for the Advancement of Science. It gives a cross section of recent progress in monomolecular layers. The variety and scope of the volume suggest that two-dimensional chemistry should not be regarded as an isolated specialty but that its methods and concepts impinge on physical and colloid chemistry, on organic and biochemistry; they contribute to analytical chemistry and to chemical engineering and technology. The contents include: Modern Film Techniques and their Application to Biochemical Reactions; Determination of Molecular Weights of Proteins by the Horizontal Surface Balance; Mechanical Properties of the Surface Films on Aqueous Solutions of Deter-

gents; Study of Adsorption at a Solution Air Interface by Radiotracers; Deposited Radioactive Monolayers; Hydrophobic Monolayers and Their Adsorption from Aqueous Solution; A Review of the Properties of Films at Oil-Water Interfaces; Chemical Reactions of Simple and Mixed Monomolecular Layers; and Chemical Reactions and Electric Potential in Monolayers. An excellent index adds to the value of the work.

ANNUAL DIRECTORY AND BUYERS GUIDE OF PERFUMERY AND ESSENTIAL OIL RECORD. 8x11 in., 262 pages, cloth covers. 1954 edition. G & M Press Ltd.

This convenient reference work, edited by W. R. Littlejohn, covers four primary subjects: Essential Oils and Synthetics; Perfumes, Cosmetics and Soaps; Flavours; and General information. Within the scope of the foregoing a vast deal of useful data is made available in convenient form. Essential Oils of the British Pharmacopoeia 1953 and the British Pharmaceutical Codex 1949 and Supplement 1952 are given in full. A dictionary of Perfumery Raw Materials with an indication of their uses and applications is a feature. Solubilities of essential oils, isolates and synthetics in the common solvents, yields of concretes from plants, perfume materials arranged in order of volatility, trade names of synthetics, natural flower bases in perfumery, essential oil yielding plants with botanical names, flash points of essential oils and synthetics and constants of oils, fats and waxes and other useful data are included. The buyers' directory and list of suppliers constitute the bulk of the contents.

LIVING CRAFTS. G. Bernard Hughes. 5x8 in., 192 pages, 24 plates and numerous line drawings, cloth covers. Philosophical Library. 1954. Price \$4.75.

In this readable book the reader is offered an opportunity to observe each of a score of crafts, not as a casual spectator, but as the craftsman himself sees it, process by process. At the same time he is shown its historical background. Chapter headings are: The Clay Tobacco Pipe Maker, The Gold Beater, The Silversmith, The Pewterer, The Wire-Drawer, The Textile Printer, The Carpet Maker, The Rope Maker, The Wood Turner, The Cooper, The Basket Maker, The Craftsmen That Serve the Archer, The Charcoal Burner, The Paper Maker, The Parchment Maker, The Horner, The Fireworks Maker, The Glass Blower and The Soap Boiler.

Flavor Section



Maple Flavor Concentrates

Methods discussed . . . Work of Eastern Utilization Research Branch (Eastern Regional Research Laboratory) on maple flavor concentrates has emphasized interest in this subject

MORRIS B. JACOBS, Ph.D.

AS has been pointed out by Willits,¹ the manufacture of maple sap products such as maple syrup, maple cream, maple sugar, and maple candies is an entirely North American industry dating back to the earliest American settlements of the first half of the 17th century. An excerpt of a letter written in 1648 illustrates this point: "I have enclosed you some sugar of the first boiling got from the juice of the wounded maple. Mr. Ashton, secretary to the Royal Society, presented it to me. It was sent from Canada where the natives prepare it from said juice, eight pints yielding commonly a pound of sugar. The Indians have practiced it time out of mind; the French began to refine it and turn it to much advantage."

Maple Sap Products

Maple sap products are derived from the sap of various species of maple, *Acer*, such as *Acer saccharum* the hard or rock maple, *Acer nigrum* the black maple, and *Acer rubrum* the red maple. Maple syrup is the product obtained by the evaporation of the sap obtained by tapping these maples. It may also be made by the solution of maple sugar obtained originally from maple sap. Maple syrup should be concentrated until it weighs 11 pounds

to the gallon. This weight corresponds to a specific gravity of 1.325.

The principal component of maple syrup is sucrose. The sap and subsequently the syrup and the solution made from maple sugar contain mineral matter, proteins, organic acids, and flavoring materials which give it its characteristic flavor and odor, or materials from which the characteristic odor and flavor can be developed during the processing. Typical analyses of maple sugar and maple syrups² calculated to a moisture-free basis show a maximum sucrose content of 98.62 per cent and an average value of 90.69 per cent.

It is clear from the relative costs of maple syrup and maple sugar on the one hand, and that of sucrose from sugar cane on the other, that it would be impossible for sucrose from maple sap to compete economically with sucrose from sugar cane. The consumer of maple sap products pays for flavor and knows that he is paying for a flavorful article. It is therefore of great importance to both the processor and the consumer to get the maximum amount of maple flavor possible from a given batch of maple sap. This was the problem the investigators of the Eastern Regional Research Laboratory, Agricultural Research Administration,

Bureau of Agricultural Chemistry, presently the Eastern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture, Philadelphia 18, Pa., set out to solve³.

Maple Flavor

Willits and Porter⁴ stress that maple sap as drawn from the tree does not contain any maple flavor for the flavor is produced during the processing steps. To prove this point, these investigators prepared a maple syrup entirely devoid of maple flavor and color by concentrating the sap by a freeze-drying method, that is, a method in which the water of the syrup is evaporated from the material being processed while it is in the frozen state.

This work indicated that maple sap contains components which react to form the natural maple flavor. This will be discussed in detail in a subsequent article. It will be of interest to review some of the other work in this field as well as that of Willits.

Maple Flavor Concentrates

One of the earliest studies in the preparation of concentrated maple flavorings was that of Sale and Wilson⁵. They were granted a patent on the basis of their work. In their process maple syrup is adjusted to a density of about 28 deg. Baume, equivalent to about 51.4 per cent of sugar, having a specific gravity of about 1.2395 at 20/20 deg. C. and a refractive index of about 1.4229 at 20 deg. C. The mixture is heated to about 80 deg. C. and is concentrated additionally after precipitating substantially all of the sugar present by use of some precipitant such as barium hydroxide.

A number of years later (1934) Skazin⁶ obtained a patent for a somewhat different process of preparing a con-

centrated maple flavoring. In this process ethyl alcohol is added to maple sirup while under constant agitation. The sugars are precipitated in crystalline form and are separated from the mixture by a suitable method. The resulting crystal-free solution is then evaporated to the desired concentration.

Whitby⁷ in 1936 was granted a patent for the preparation of maple products of intense flavor. In the Whitby process maple sap is evaporated at normal pressure to a concentration of about 10 to 35 per cent solids. This partial concentrate was further concentrated under vacuum at a temperature not exceeding 50 deg. C. The product obtained from the vacuum concentration was then heated additionally in a closed vessel at 120 to 150 deg. C (248 to 302 deg. F.).

In 1937 Lund received a patent⁸ for the following process. Maple sugar was subjected to a steam treatment to dissolve the flavor components without dissolving the sugar crystals. The steam is subsequently condensed and the resultant condensate is stripped centrifugally from the crystals to yield the concentrated maple flavor.

Willits-Porter Method

Willits and Porter⁴, members of the staff of the Eastern Regional Research Laboratory, now called the Eastern Utilization Research Branch, found that additional maple flavor and color could be developed in maple sirup prepared by conventional methods by a heat treatment.

They observed that the quantity of additional flavor and color they could produce was dependent on the conditions, the temperature, and the time of the subsequent heating treatment. Their preliminary experiments showed that, if the heating was performed at 225 deg. F. or above in the presence of as much as 35 per cent of water, which is the normal water content of standard maple sirup, caramel and other off-flavors are produced in such concentration that the additional flavor made by the heat treatment is masked. They noted that the amount of flavor produced in the heat treatment could be made to exceed any off-flavors if the heating was done when lesser amounts of water are present in the sirup.

With these observations in mind, these investigators developed a method in which the strength of the final product is four to six times that of the starting material.

The process consists of (a) boiling the sirup at atmospheric pressure until sufficient water has been evaporated to cause the boiling point of the concentrated sirup in which the solids

have been increased to about 90 per cent, to be raised to a temperature between 240 deg. F. and 255 deg. F.; (b) holding the concentrated sirup at this temperature for approximately 2 hours by preventing any additional loss of water through the use of a reflux condenser; (c) cooling and adding an amount of water equivalent to that lost by evaporation. Maple sirup treated in this manner develops a maple flavor and a color which is at least four times the strength and depth of the starting sirup.

Thus, Willits and Porter say, a product is produced which can be diluted with three or four more volumes of cane sugar sirup containing 65 per cent of solids to yield a maple-cane sirup blend that is practically indistinguishable from the original maple sirup.

Procedure

The example given by these investigators in their patent⁹ discloses somewhat more rigid conditions for the production of their highly flavored sirup. Thus maple sirup, manufactured by any conventional method and adjusted to a solids content of 65 per cent, is boiled in a vapor-tight vessel equipped with a reflux condenser, stirring device, and a thermometer. Water is added slowly to the sirup boiling at 244.5-246 deg. F. in such a manner so as not to interrupt the boiling until the temperature of the batch is lowered to 220 deg. F. Then the heating is discontinued and the concentration of the solids of the cooled batch is adjusted to 65.5 per cent by the addition of water. The product prepared in this manner shows the advantages noted in the above discussion.

It is interesting to note that Whitby⁷ finished his process by heating his concentrated maple sirup additionally in a closed vessel at 248 deg. F.

In this article, several methods for the preparation of maple flavor concentrates were considered. In November of 1947, I discussed the manufacture of maple-flavored sirups and in March of 1948, I discussed the preparation of imitation maple sirup. In a succeeding article I will take up the topic of the flavoring principle or principles of natural maple flavor.

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3. C. O. Willits and W. L. Porter, "Maple Sirup I, Research Program," AIC-268, (1950).
4. C. O. Willits and W. L. Porter, "Maple Sirup II, 'A New High-Flavored Maple Sirup,'" AIC-269 (1950).
5. J. W. Sale and J. B. Wilson, U. S. Patent 1,642,789, 1927.
6. Leo Skazin, U. S. Patent 1,961,714, 1934.
7. G. S. Whitby, U. S. Patent 2,054,873, 1936.
8. A. A. Lund, U. S. Patent 2,072,895, 1937.
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Vanilla Research Committee of F. E. M. A. Reports on Work

The Special Vanilla Research Committee, together with members of the Scientific Research Committee and Standards Committee of the F.E.M.A. held a meeting at the Boyce-Thompson Institute for Plant Research, Inc., Yonkers, N.Y. December 17.

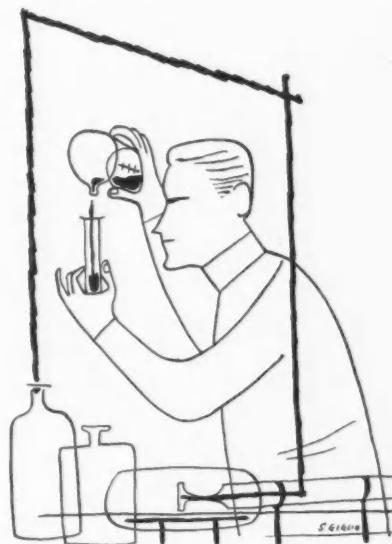
H. L. Janovsky, Chairman of the Scientific Research Committee, presided. The following members were present: J. M. Blatterman-Warner-Jenkinson Mfg. Co., St. Louis, Mo.; Thomas J. Bonica-Polak & Schwarz, Inc., New York, N. Y.; James J. Broderick-Givaudan Flavors, Inc., New York, N. Y.; R. Cagigal-The Camax Co., Philadelphia, Pa.; Richard L. Hall-McCormick & Co., Inc., Baltimore, Md.; H. L. Janovsky-Virginia Dare Extract Co., Inc., Brooklyn, N. Y.; David Jorysch-H. Kohnstamm & Co., New York, N. Y.; David E. Lakritz-Florasynth Laboratories, Chicago, Ill.; Jack Laughlin-Foote & Jenks, Inc., Jackson, Mich.; J. R. Maxwell-The Camax Co. (Vanilla Bean Assn.), Phila., Pa.; I. F. Plagge-Bowey's, Inc., Chicago, Ill.; Willis Steinitz-American Food Lab., Brooklyn, N. Y.; Arthur S. Wendt-Fred Fear & Co., Brooklyn, N. Y.; and John S. Hall-Attorney & Executive Secretary, Chicago, Ill.

Scientific Staff, Boyce-Thompson Institute for Plant Research, Inc., present were: George L. McNew, Managing Director, Ph.D. (Plant Pathologist); John M. Arthur, Secretary, Ph.D. (Biochemist); Lela V. Barton, Ph.D. (Plant Physiologist); H. P. Burchfield, M.A. (Physical Chemist); and Edward A. Prill, Ph.D. (Organic Chemist).

Mr. Janovsky advised that at the October 1 meeting of the Board of Governors, a report of the Scientific Research Committee was submitted with recommendations that the Boyce-Thompson Institute for Plant Research, Inc. be employed to conduct an exploratory vanilla research program in accordance with proposed plan submitted on August 4th, 1954. That the proposed plan in part was divided into three stages, (1) to evaluate known, as likewise isolate unknown components contained in vanilla beans, vanilla extract and/or flavor, (2) determinations to ascertain whether said findings could be used as a basis for the establishment of definitions and standards of identity for vanilla extract and, (3) a study of the processes of maturing and curing vanilla beans to improve the flavor. A contract was made. Subsequently the Institute submitted a Fellowship agreement which was approved.

H. L. Janovsky:*

aromatics in beverage flavors



FLAVOR is a "small" word, but a "big" factor in the preparation and sale of beverages. Percentage-wise, flavor is the smallest component in the finished beverage, yet, the largest contributing item to the saleability of the product. Flavor determines the success or failure of the finished drink.

Flavor is *not* a single defined sensation, but the combination of many sensations; as, sweet, sour, or bitter, influenced by temperature, body and color.

Yet, when the word "chemical" is mentioned in connection with food or beverages, some people rear their head as if a "dirty word" had been spoken. Let us face the facts. Most materials we consume daily are chemicals. Many chemicals are necessary to sustain the everyday chemical process we call "living." The major components used in soft drinks, aside from flavor, are also chemicals, as: water, sweetening agents, acidulants, buffers, colors, carbon dioxide as well as classes of substances that are employed to import special qualities such as body, cloudiness or stability. Therefore, let us not fear the use of the word "chemicals" when discussing flavoring in beverages since in many instances they are necessary additions for controlled accentuation, concentration and economy.

Flavoring agents are classified into three classes. The first class is True Fruit Flavors in which are natural flavors, extracted, distilled or concentrated from fruits and other botanical sources. In view of cost of flavor intensity, it is sometimes necessary to add

other natural flavoring agents to enhance the natural flavor characteristics, producing the other class known as True Fruit Flavors W.O.N.F. (with other natural flavors added) in which the flavor is at least 51% True Fruit. The third class of flavoring is that of imitation flavors, produced by the use of synthetic organic aromatic chemicals, sometimes alone, or in combination with natural products. Many of these synthetic aromatic chemicals are chemically identical with those found in nature which contribute to the flavor of a fruit or plant extractive.

Analysis of fruit juices have proven the presence of chemicals like hydrocarbons, alcohols, ethers, esters, ketones, aldehydes, organic acids and other carbonyl compounds.

Many aromatic chemicals are used by skilled flavor chemists to reproduce the flavoring of natural fruits or berries.

To trace the use of aromatic chemicals as flavoring agents, we must begin with the essential oils, since these oils were the first used to enhance or duplicate the actual flavoring of fruits or berries, in which the natural oils and chemicals are contained. Studies of the essential oils were conducted before the birth of Christ. As time went on, man became further interested in the isolation, synthesis and finally the manufacture of isolated components of the essential oils which lead to the manufacture of Synthetic Organic Aromatic Chemicals for perfumery and flavoring use.

The actual use of aromatic chemicals in flavors began at the end of the 19th century. Ethyl acetate was discovered in 1759. In 1851 at the London Worlds

Fair, "Solutions of Esters" were first presented as artificial flavorings; Perkins prepared coumarin in 1867, and Tiemann synthesized vanillin in 1874; others followed.

The art of production of synthetic or imitation flavorings as an industry is new when compared to other phases of the food and beverage industries. However, these resulting compositions while artfully blended are more or less oils, and needing a dilution media for practical use as a flavor; alcohol, propylene glycol, glycerine, and/or water, are usually used for this purpose as extracts or emulsions.

The actual quantity present of the aromatic chemicals in the finished soft drink when properly diluted is very small; only a fraction of a percent.

This is best illustrated by listing the principal contributing aromatic chemicals, and their quantities present in the following types of flavors:

	Average contained P.P.M in finished drink
<i>Birch Beer</i>	
Methyl Salicylate	28.6
<i>Cherry</i>	
Benzaldehyde	49.2
<i>Cream</i>	
Vanillin	13.9
Ethyl Vanillin	9.6
<i>Ginger Ale</i>	
*Citral	6.6
*Aldehydes C-8-9-10	1.3
* (In Citrus Oils)	
<i>Grape</i>	
Ethyl Cenanthate	3.9
Methyl Anthranilate	7.1
Ethyl Acetate	42.2

*Virginia Dare Extract Co. Address before National Soda Water Flavor Manufacturers Assn. at 49th annual meeting.

Blending of complex mixtures that produce the imitation flavor of any natural product . . . Improvements can be made even upon Nature

<i>Grapefruit, Lemon</i>	
<i>Lime, Orange</i>	
Citral	6.6
Aldehydes C-8-C-9-C-10	1.3
<i>Pineapple</i>	
Allyl Caproate	3.5
Ethyl Heptoate	4.6
<i>Raspberry</i>	
Amyl Acetate	27.4
Inone	0.87
<i>Root Beer</i>	
Methyl Salicylate	28.6
Safrole	29.4
<i>Sarsaparilla</i>	
Safrole	29.4
Methyl Salicylate	28.6
<i>Strawberry</i>	
Ethyl Methyl Phenyl	
Glycedate	3.85
Ethyl Valerate	2.9

While the above aromatic chemicals in part or principally contribute to the particular flavor, the following so-called "neutral esters" are used as flavor adjuncts to further develop the flavor composition, as in Cherry, Grape, Pineapple, Raspberry and Strawberry.

Average P.P.M in finished drink

Iso Amyl Acetate	27.4
Iso Amyl Butyrate	16.0
Ethyl Acetate	42.2
Ethyl Butyrate	44.2
Ethyl Formate	3.8

Hundreds of other aromatic chemicals are used in small amounts as "toners" for flavor compositions, to impart the distinctive characteristics that we all seek, to make our imitation flavors closely simulate the natural product, as well as aid in the creation of new flavorings, in the competitive race to sell the "Best Flavor." For example, a little addition of amyl or ethyl iso valerinate to a Strawberry, tolualdehyde to a Cherry, anethol to a Root Beer, ethyl caproate to a Grape, allyl heptoate to a Pineapple will change the formulation into a new direction.

We discuss the use of chemicals and refer to them as "principal flavoring constituents," "neutral esters" and "toners." Perhaps it is difficult to grasp their meaning as to use. It would be more descriptive if we compare the scientific art of the flavor chemist who

produces a new flavor to that of an artist painting a picture.

Let us then for example say; that the "principal flavoring constituents" are the primary color pigments on the palette. That the "neutral esters" are comparable to the use of the neutral colors like white, into which the artist blends his colors for various effects he desires in coloring. That the so-called aromatic "toners" are like the secondary colors and small additions to the mixed color which makes his conception of the same scene or character different and more "life-like." We further must illustrate the use of his solvents like turpentine, linseed oil are comparable to the flavor solvents as water, alcohol, propylene glycol and glycerine which helps dilute the pigment or flavor composition, so that the right smooth "shading" is obtained.

These are the ingredients, yet it takes the individual creative ability and imagination of the artist or flavor chemist to reproduce the smile of a Mona Lisa or the unusual true flavor of a luscious grape.

The concentration of the usual aromatic chemical in the finished beverage usually does not exceed 50 parts per million (or only 0.005%). It is true that many aromatic chemicals are used in combination, yet the total end-use of all would only be a small fraction of a percent.

The withdrawal of coumarin from use in flavoring has possibly brought forth the stigma of "poison," in relation to the use of aromatic chemicals in imitation flavorings. Much discussion has been evolved on this subject, and we do not wish at this time to delve into its solution or render opinion pro or con.

However, we may state that almost anything can be classed as a "poisonous or deleterious substance," if misused in excessive quantities under improper condition, even everyday "chemicals," like water and salt. Therefore, it is the end-use percentage that is the controlling factor in determination of any toxicity data. Also we may mention "taste-wise," excessive use of any aromatic has its self limitations. The use of synthetic aromatic chemicals in flavorings fills a definite practical need.

They are economical, uniform as

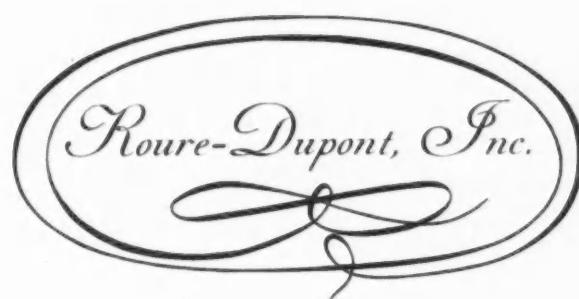
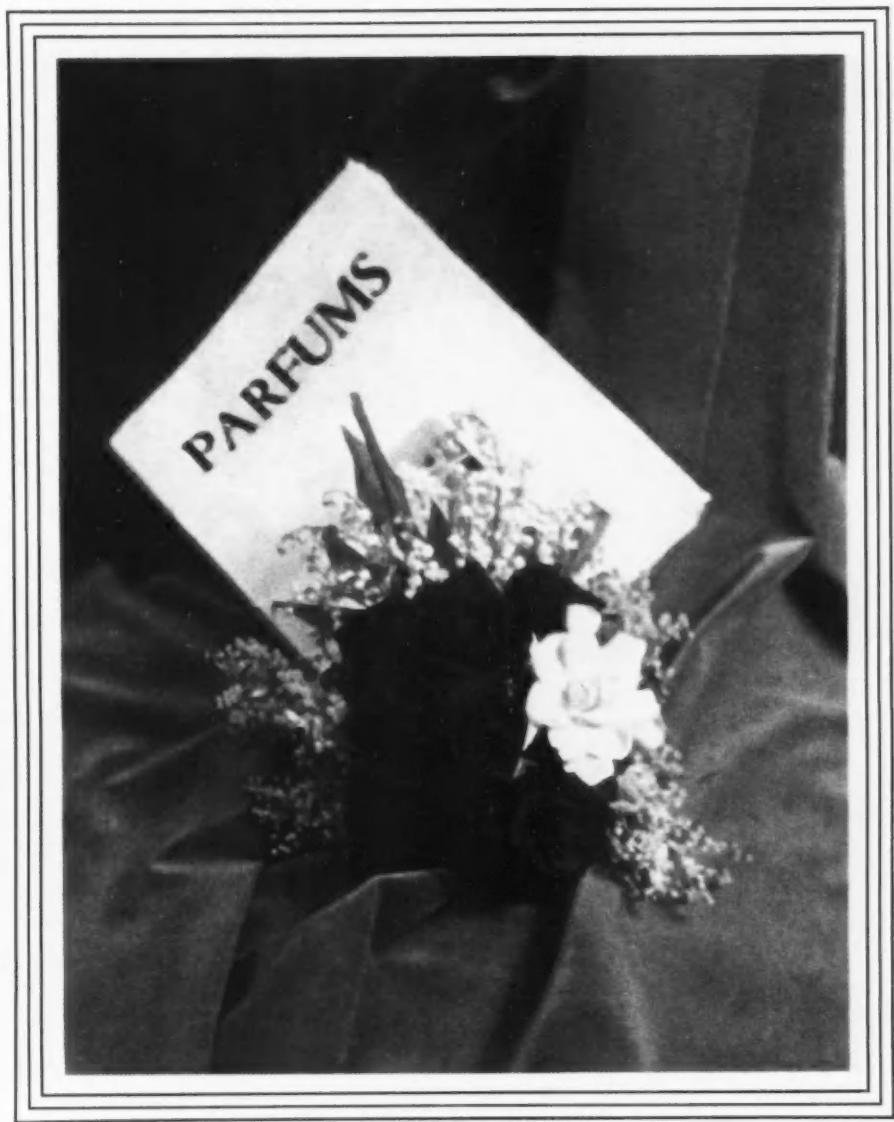
well as available in purified higher concentration than their natural counterpart.

The blending of these complex mixtures that produce the imitation flavor of any natural product is truly an artful science best practiced by trained experienced flavor chemists or flavorists, who by adding scientifically varied amounts of the many available aromatic chemicals can even improve on nature, producing countless varieties of the same type of flavor to stimulate and satisfy palates of the consumer, who demands novel variety in his beverage.

Detection of Artificial Aroma in Natural Extracts of Coffee. G. Séris (*Ann. Falsif.*, 1954, 47, 26-29).—The presence of an aromatic adulterant in natural extracts of coffee is revealed by obtaining the u.v. absorption spectrum between 230 and 420 m μ of 2 ml of a n-hexane (vapour) extract of the volatile constituents in the coffee essence. A distinct max. at \approx 315 m μ indicates addition of 0.1 to 1 per cent of artificial aroma, the strong max. at 270 m μ corresponding to the natural aromatic volatiles. The sensitivity of the method is approx. 1 in 1000. A.A. 1668.

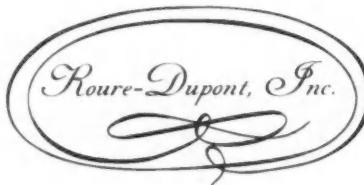
Liquid Pepper Composition. Frederick R. Schumm and Claude Johnstone (to Dodge & Olcott, Inc.). U.S. 2,680,690, June 8, 1954.—Black pepper corns are dried, ground to 20-mesh size, and extd. with Me_2CO until extn. of oleoresin is complete. The ext. is distd. at atm. pressure to remove most of the solvent; the temp. of the residual liquid is kept at 150°F. About $\frac{1}{3}$ of its wt. of anhyd. lactic acid is added to the ext. and the distn. with agitation at 1 lb./sq. in. at 150°F. After all the solvent is distd. off, the viscous thick emulsion of solubilized peperine is cooled. Cf. C.A. 47, 3492c. Thru C.A. 48, 10258g.

Meat-Tenderizing Preparations. Gustav Bock and Helen Goldhammer, *Australian* 141,755, June 25, 1951. A powd. enzymic substance, e.g. papain, ficin, or bromelin, is mixed with an "osmogenic substance," a water-sol. and diffusible crystalloid, e.g. Na, K, or NH_4 salts, glucose, glycocoll, or sucrose. An activator, e.g. $\text{Na}_2\text{S}_2\text{O}_3$, $\text{Na}_2\text{S}_2\text{O}_6$, $\text{Na}_2\text{S}_4\text{O}_6$, or glutathione, and a buffer, e.g. alkali citrate or phosphate, can be included. The mixt. is applied in an aq. soln. or an aq. soln. dispersed in an edible fat or oil. Thus a mixt. (I) is prep'd. of 3 g. papain, 450 g. NaCl, and 20-5 g. $\text{Na}_2\text{S}_2\text{O}_3$, and the meat is soaked in a soln. of 30 g. I in 600 cc. water below 60° for 5-60 min. C. A. 48 6617d.



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J. S. Wiedhopf Honored on Retirement from Parfums Ciro

Leading perfumers composing the Perfumery Importers Assn. honored J. S. Wiedhopf, president of Parfums



J. S. Wiedhopf

Ciro at a dinner in the Waldorf Astoria, New York, December 21. Mr. Wiedhopf has spent 47 years in the fragrance field. He started with the Alfred H. Smith Co. in 1907 when Djer Kiss was in its infancy. In 1921 he went into business with Guy T. Gibson distributing Caron perfumes. In 1923 they founded Parfums Ciro in the United States. Mr. Wiedhopf was treasurer of the Perfumery Importers Assn., a member of the Advisory Committee of the War Production Board during World War II, and was one of the founders and first president of the Fragrance Foundation of which he is a life director. Mr. Wiedhopf retired January 1.

Those present to honor Mr. Wiedhopf on his retirement were: Charles A. Pennock, Nat Middleton, Maurice Levy, Joseph Vaughan, Andre Wick, Jacques Manoha, Pierre Harang, H. Gregory Thomas, H. J. Brooks, Frazer Sinclair, Paul Martinot, Paul Douglas, Elie Stoyanoff, Philip Smith, Hugo Mock, Jack Poses, Henri Costerg, Herbert Storfer Jr., Guy Rocherelle, Francois J. Maitre, Peter Marquand, Owen Starin, Ray George, Stephen L.

Mayham, Harold D. Goulden and William Lambert.

Daggett & Ramsdell, Inc. Takes Over Primrose House

Daggett & Ramsdell, Inc., New York, has taken over the manufacture, sale and distribution of Primrose House cosmetics.

Primrose House products will continue to be available in their present packaging, and Primrose House accounts will be serviced by Daggett & Ramsdell. Plans to promote the Primrose House line are under consideration, and are expected to be announced shortly. Regularly scheduled promotions will continue to be offered throughout the year.

Glycerine Div. of Soap Assn. Annual Meeting January 27

The annual meeting of the Glycerine Division of the Assn. of American Soap & Glycerine Producers will be held on Thursday, January 27, during the association's 28th annual convention, at the Waldorf-Astoria Hotel, New York, January 26-28.

Feature of the program will be the presentation of the 1954 Glycerine Research Awards. First award is an honor plaque and \$1000 cash stipend; second, honor certificate and \$300; third, honor certificate and \$200.

Among the technical papers to be delivered will be a report on acetylated monoglycerides by Dr. R. O. Feuge of the Southern Regional Research Laboratory, New Orleans, La., and a review of low-temperature preservation of living cells in glycerine solutions.

BIMS to Hold Annual Dinner and Entertainment Feb. 10

The BIMS of New York will hold their annual dinner and entertainment on February 10 at the New York Athletic Club.

Milkmaid, Inc. Subsidiary of Harriet Hubbard Ayer

The Milkmaid Co. has been acquired by Harriet Hubbard Ayer, Inc., a division of The Nestle-LeMur Co.,



Louis Naidech

according to Louis Naidech, executive vice-president.

Milkmaid, Inc. will be a wholly owned subsidiary of Harriet Hubbard Ayer, Inc., and its products will be manufactured in their Ayer plant and distributed through department and drug stores. Future promotional plans for the Milkmaid are expected to be announced soon.

New offices of Milkmaid, Inc. are located at 902 Broadway, New York 10, N. Y.

Dr. Paul Z. Bedoukian Traces History of Aromatics in U. S.

A large and appreciative audience listened attentively to a well composed lecture by Dr. Paul Z. Bedoukian, author of "Perfumery Synthetics and Isolates" and perfumer for Faberge Inc. at the December 15 meeting of the American Society of Perfumers Inc. on the History and Development of the Aromatics Industry in America. The interesting lecture is to be published in the near future.

Industry Council Established by Collapsible Tube Makers

Formation of the Collapsible Tube Manufacturers Council, representing all 16 of the nation's producers of one of the most widely used of metal containers, has been announced.

Members of the council are: Aluminum Co. of America, Edgewater, N.J.; Art Tube Co., Irvington, N.J.; Atlantic Manufacturing Co., Newark, N.J.; Atlas Collapsible Tube Co., Chicago; Globe Collapsible Tube Corp., Long Island City, N.Y.; Michigan Collapsible Tube Co., East Detroit, Mich.; National Collapsible Tube Co., Providence, R.I.; Peerless Tube Co., Bloomfield, N.J. Also, Shelfield Tube Corp., New London, Conn.; Standard Collapsible Tube Co., Rochester, Pa.; Sun Tube Corp., Hillside and Washington, N.J.; J. S. Turner White Metal Co., New Brunswick, N.J.; Victor Metal Products Co., Wheeling Stamping Co., Wheeling, W. Va.; White Metal Manufacturing Co., Hoboken, N.J., and Indianapolis, Ind., and A. H. Wirz Inc., Chester, Pa.

"The primary aim of the council is to unite the thinking and energies of our industry in promoting the important packaging role played by collapsible metal tubes," Mark W. Dresden, who was elected chairman of the council, stated.

"We are taking this action at a time when scores of industries are coming to market with conveniently packaged products that contribute to the health, enjoyment and comfort of the American people.

"The intensive drive to develop new and better products has been a marked trend in American industries since V-J Day. Scores of products requiring containers that stimulate volume buying and provide consumers with new services and greater convenience came on the market in 1954. We anticipate that this trend will gain momentum in the years ahead."

Named to serve with Mr. Dresden, who is president of A. H. Wirz Inc., are Frederic Remington of Peerless, C. Christy Jones of Alcoa, Charles Stiasni of White Metal, Victor Muscat of Victor Products, J. H. Heideger of Standard Collapsible, Kenneth M. Leghorn of Sun, and A. W. Paull Jr. of Wheeling Stamping.

Cosmetics Sold to Students Subject to Excise Tax

The Internal Revenue Service has ruled that the exemption from the excise tax, applicable to sales of cosmetics to beauty or barber shops and schools, does not apply to sales of cosmetics to students of such schools.

Pre-Testing Bills Expected to Be Introduced in New Session

Legislation requiring pre-testing of new chemical additives in cosmetics and foods is expected to be introduced by Rep. James J. Delaney in the next session of Congress.

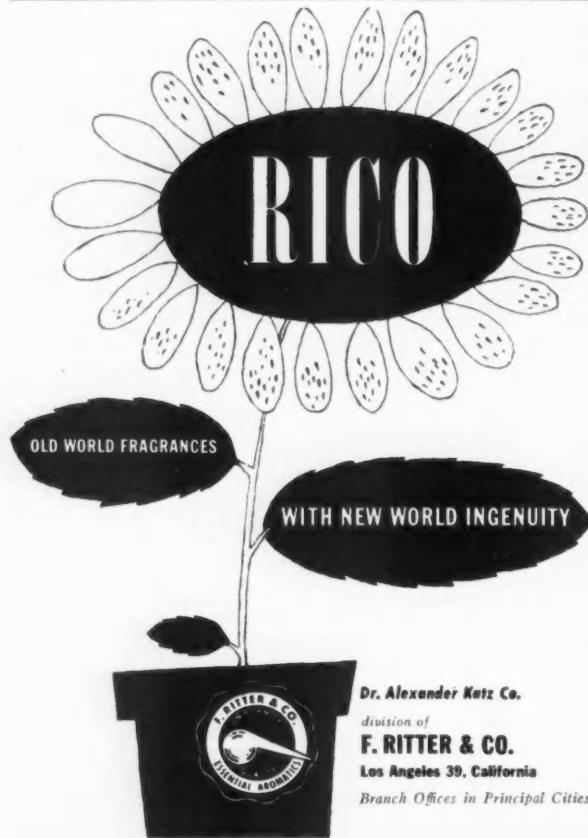
F.T.C. Completing Survey of Rules Compliance

Results of its field survey of compliance with cosmetic trade practice rules are now being tabulated by the Federal Trade Commission, it is reported, and an announcement is expected shortly.

Estimated 1954 Soft Drink Bottles Sales: \$1,250,000,000

Sales of soft drink bottles in 1954 were estimated to total \$1 1/4 billion, and were predicted to show another 5-10 per cent increase in 1955 by president E. Robert Anderson of the American Bottlers of Carbonated Beverages during the organization's recent 36th annual meeting.

Mr. Anderson reported that a survey by the association indicated that 94 per cent of the nation's families use bottled carbonated beverages in their home, that 91 per cent buy their soft drinks from grocery stores, and 16 per cent of the reporting families buy them frequently at service stations.



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Dentifrices, Cosmetics Spur Demand for Collapsible Tubes

Another year of high level production, spurred by expanding demands from the manufacturers of dentifrices and cosmetics, is predicted for the collapsible tube industry for 1955.

This was the year-end forecast of Lester B. Platt, secretary of the Collapsible Tube Manufacturers Council, who said the improved demand for this type of container during the second half of 1954 is expected to continue through the new year.

"Increasing recognition is being given the collapsible tube as a lightweight, sanitary and durable convenience package which provides virtually automatic dispensing of semi-fluid products," Platt said.

Another factor contributing to the industry's favorable outlook, he said, is a smoother flow of orders due to a decrease in packagers' inventories.

While final figures are not yet available, the industry's 1954 output, according to Mr. Platt, will approach and may possibly equal or exceed 1953 production of 6,682,405 gross or nearly a billion tubes.

The industry comprises 16 manufacturers and 20 plants throughout the U.S. It produces numerous sizes and types of tubes for the packaging of

toothpastes, medicinals and pharmaceuticals, shaving creams, cosmetics, household and industrial items and food products.

End use distribution of tubes in the first 10 months of 1954 revealed toothpastes accounting for approximately half of all production. Household and industrial products and medicinals and pharmaceuticals consume more than one-third of output while cosmetics, shaving creams and food-stuffs make up the remainder.

Although tube production has almost doubled since 1939, the industry has manufacturing facilities on hand to substantially increase volume if the demand warrants, Mr. Platt reported. This extra capacity, he explained, resulted from a shortage of lead in 1948-49 and the high price of and restrictions on tin in 1950-51, creating a larger demand for aluminum tubes which required the purchase and installation of additional heavy extrusion presses.

He added that the industry has been able to hold its prices relatively stable despite generally increasing wage and other production costs.

As for metals, it is estimated the industry in 1954 will have consumed approximately 10,000,000 pounds of lead, 6,160,000 pounds of aluminum, and 1,250,000 pounds of tin.

Toiletries Capture Honors at Aerosol Packaging Contest

At the third annual aerosol packaging contest of the Chemical Specialties Manufacturers Assn. in New York early in December The Dache spray of General Beauty Products Inc. won first place in the hair preparations class and was judged the top package among 282 entries in the national contest. Airkem Inc., won an award for its Mist Air Deodorant, and Yardley of London Inc. won an award for its Yardley Shaving Foam. Sardi Hand Cream of Walgreen Drug Stores also won an award. Corday Inc. took an award also for its glass and plastic container for perfume.

Parfums Elyan Acquires New Office and Factory Building

Parfums Elyan Inc., which manufactures perfume exclusively, has purchased a four story building at 338 E. 35th St., New York. The new quarters will double the present facilities of the company for manufacturing, laboratories, display and storage purposes. Space will also be available for experimental research conducted by a subsidiary Chemical Research and Manufacturers Inc. of which Dr. Walther Langer is president. Personnel in excess of 200 will move to the new location in the Spring.

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During their recent three weeks visit to the U.S., Pierre Chauvet, head of Pierre Chauvet & Co., Seillans, France, and his Paris representative, Charles Roux, were entertained on numerous occasions by the executives of Fritzche Brothers. Above, Messrs. Chauvet and Roux are being entertained at a luncheon given in their honor at Charles Restaurant by F. H. Leonhardt, chairman of the board, and Mrs. Leonhardt. Seated around the table, left to right, are: John L. Cassullo, Miss Mary G. Neary, Charles Roux, Mrs. Leonhardt, Mr. Leonhardt, Mrs. John Baylis, Mr. Chauvet, Dr. Guenther, Mrs. Montgomery and Mr. Montgomery. Standing, rear, R. W. Wilmer, George H. Ammersbach, Dr. E. H. Hamann, Fred Leonhardt, Jr., and H. P. Wesemann.

Toni Co. Announces Big Sales Staff Expansion

The Toni Co. division of the Gillette Co. has announced the promotion of 18 men in one of the biggest staff expansions ever of the company's sales organization, according to Walter G. Willie, general sales manager.

Topping the list of promotions is Joseph Salganik, former eastern region manager, to field sales manager, a newly created post.

Under the expansion the company has now three main sales regions in the United States. Named to head the eastern region is Robert Bruant; Paul Skillman will direct the western region, and Robert Wieringa heads the new central region.

The company recently held sectional sales conferences in four cities. The meetings were held simultaneously at the Roosevelt Hotel, New York City; Knickerbocker Hotel, Chicago; Roosevelt Hotel, New Orleans; and the Albany Hotel, Denver.

Toni sales executives who attended the sessions included Walter G. Willie, Joseph Salganik, James A. Torrens, sales administrator, Carle Randall, food market division manager, and Clark J. Gutman, sales promotion manager.

Hair Is Hollow—New X-Ray Microscope Proves It

Hair is hollow—and the General Electric Co.'s X-ray department is producing the x-ray microscopes to prove it. The instruments, which enlarge objects up to 1,500 diameters, are the first to be produced in the U.S., and are ex-

pected to be widely used in such fields as medicine, biology, chemistry and metallurgy.

Cal. Cosmetic Assn. Installs Officers, Directors for '55

The annual Dinner-Dance of the California Cosmetic Assn., which took place recently in the Mayfair Room of the Beverly Wilshire Hotel, Beverly Hills, was also the occasion for the 23rd Installation of Officers.

Before a gathering at dinner of more than 200 members and guests, Arnold

L. Lewis inducted the new officers, delivering the symbol of the Presidency to J. A. Taylor, who was retained in office for a second term.

Other officers elected to serve with him are 1st Vice-President Harry F. Taylor, Studio Girl-Hollywood, Inc.; 2nd Vice-President Lyle Christy, Luziers, Inc.; Secretary A. C. Schaefer, The Glenway Co. and Treasurer D. G. Edmonston, Colonial Dames, Inc.

Members elected to the Board of Directors include Davis Factor, Dr. Paul Jewel, Gene Salee, M. Herbold, A. J. Coghlan, John Danley, E. M. Stolaroff, Lucile Bullock, Arnold L. Lewis, A. F. Commagere, Jack Leeds and Kenneth Rickard. Marie V. Carroll was re-appointed as Executive Secretary.

Mrs. Samuel Isermann of New York, President of Van Dyk & Co., Inc., a member of CCA, was present to receive compliments and congratulations of the association upon the fiftieth anniversary of her firm. She was introduced by Dr. Paul Jewel, Chairman of the Dinner and Installation Committee.

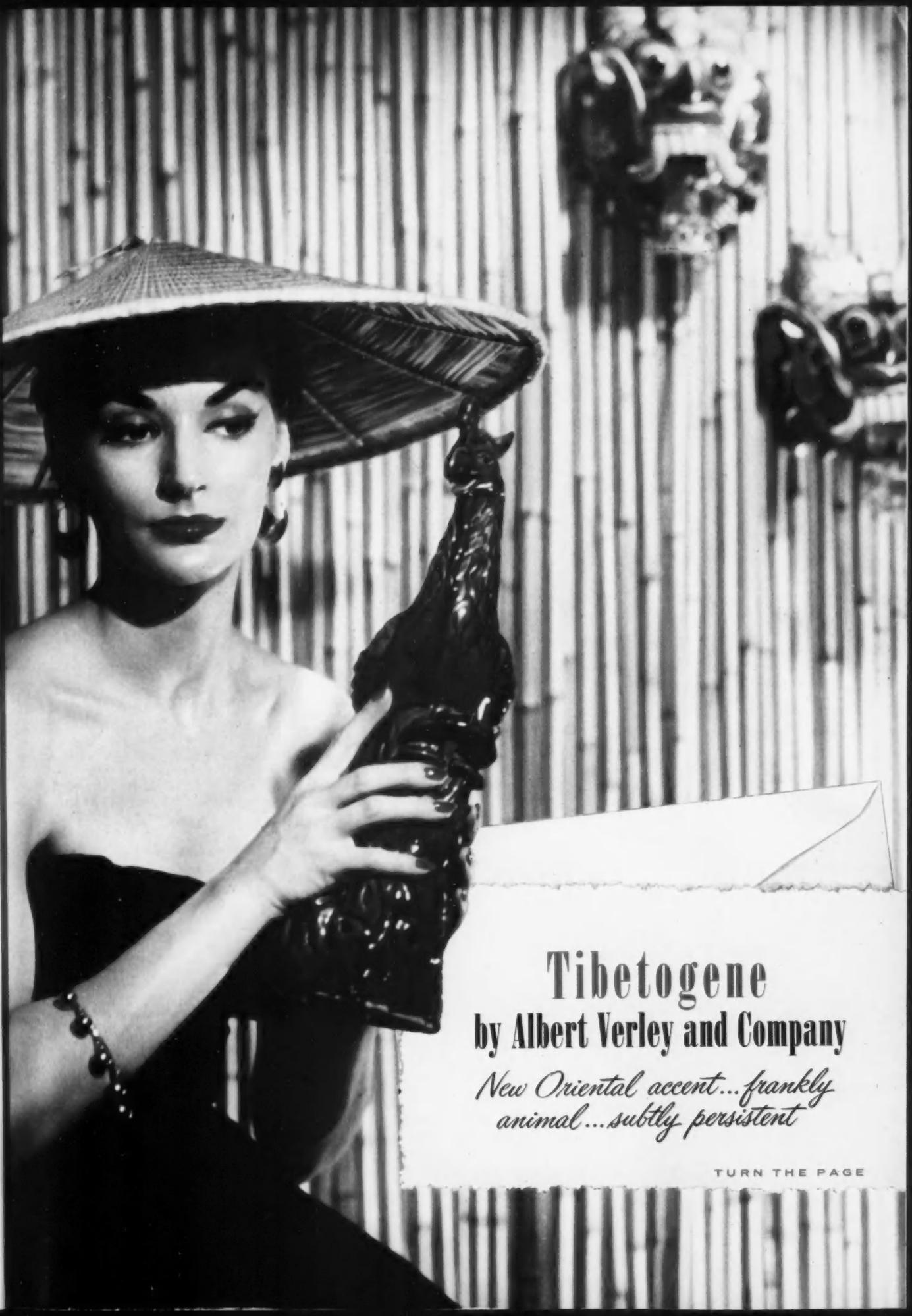
Suggest Cleanser Ingredient Less Irritating Than Soap

A cleansing product containing sodium lauryl sulfoacetate might be less irritating for skin that is affected by ordinary soap, according to Drs. Lloyd S. Nelson and Albert V. Stoesser in *Annals of Allergy*.

Possible sources of irritation by soap were seen in alkalinizing effects, dyes, fatty acids, germicides, bleaches, and added medicinal agents.



Above, the California Cosmetic Assn. installs its new officers. Seated, from left to right, are: J. A. Taylor, president; Harry F. Taylor, 1st vice-president; standing, in the same order, are: D. G. Edmonston, treasurer; Lyle Christy, 2nd vice-president, and A. C. Schaefer, secretary.



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John H. Breck, Jr. Receives 15 Years' Service Pin

John H. Breck, Jr., executive vice-president of John H. Breck, Inc. was presented with a gold pin denoting his completion of 15 years of service with that firm at a testimonial dinner held recently for long-time employees in the Springfield, Mass., home office. Other Breck executives receiving 15 years pins on the occasion were James E. Pratt, credit and collection manager, and Phillip L. Sherman, traffic manager.



John H. Breck, Sr., chairman of the board of John H. Breck Inc., presents a 15 year gold pin to John H. Breck, Jr., executive vice-president of that firm at a recent testimonial for long-time employees.

Chicago S.C.C. Installs Officers for 1955

The Chicago Chapter of the Society of Cosmetic Chemists installed the following new officers for 1955 at a recent meeting: Chairman, William E. Lieb, Allen B. Wrisley Co.; Chairman-Elect, Sylvia Kramer, Marcelle Cosmetics, Inc.; Secretary, Seymour Kornblau, Lady Esther, Ltd.; Treasurer, Peter Parker, Kolar Labs. Publicity Chairman for 1955 is William F. Tomlinson.



Above, the officers for 1955 of the Chicago Chapter of the Society of Cosmetic Chemists. Left to right they are: Seymour Kornblau, secretary; William E. Lieb, chairman; Sylvia Kramer, chairman-elect; and Peter Parker, treasurer.

Shulton-McKely Co. Trademark Suit Settled

An agreement has been signed by Shulton, Inc., makers of Old Spice Men's Toiletries and the Alfred D. McKely Co., manufacturers of Seaforth Products for Men, wherein Shulton, Inc. has agreed to withdraw from the Federal District Court its suit for trademark infringement and unfair competition. The Alfred D. McKely Co. has agreed to emphasize its product name, Seaforth, with its established Scotch theme in advertising and promoting its line of men's toiletries which compete with Old Spice products.

Veteran Employees Honored at Givaudan-Delawanna Party

Givaudan-Delawanna, Inc. held its annual Christmas Party at the Swiss Chalet, Rochelle Park, N. J., December 18, at which time twelve employees were presented with gold Swiss watches. A thirteenth employee had received his watch at a previous dinner tendered to him at the company's Chicago branch. The thirteen new twenty-five year veterans who brought the total number to fifty-three included John Bardzik, Joseph Ciccone, Emil De Luca, Charles Dolecki, Alexander J. Gogolin, Edward Matthiae, Matthew Motyka, Thomas F. Novak, Stanley Olsiewski, Dante Pavan, Anne Schauder, Fred Stiritz, and Michael Switek.

Approximately 400 employees of the Givaudan organization attended the annual party and were treated to the traditionally excellent steak dinner.

Marking its thirtieth anniversary, the company distributed pens to all its employees and read cables from associate Givaudan firms abroad.

The gathering was addressed by E. R. Durrer, president, Dr. Max Luthy, vice-president and plant manager, and H. F. Duffy, treasurer.

Trenton Folding Box Co. Honors Richard G. Ehrlich

Richard G. Ehrlich, metropolitan sales representative for the Trenton Folding Box Co., was given a testimonial dinner by the officers of the company on the evening of December 13 in recognition of his services for the past 25 years. The dinner was attended by all members of the company's Twenty-five Year Club, which includes all who have served with the concern for 25 years or longer. Each member incidentally received a token gift of a folder containing one dollar for each year of service with the company. At the conclusion of the dinner an engraved gold watch was presented to Mr. Ehrlich by Robert E. Burroughs

Sr., president of the company. Among the officers present who paid tribute to Mr. Ehrlich were Forest C. Jobes, treasurer and Miss Reba Crammer, secretary. Each woman present received a zipper traveling bag. Mr. Ehrlich who is well known throughout the industry joined the company as sales representative in 1928. He maintains offices in New York City.

Dr. Pepper Co. Market Tests Soft Drink Containers

The Dr. Pepper Co. is market testing relative consumer preference for its soft drink in a deposit bottle, a 6-ounce regular crown-topped can, and a new flat-topped 12-ounce can, in grocery stores in Dallas and Fort Worth, Tex.

Philadelphia College of Pharmacy Awards 15 Scholarships

The Philadelphia College of Pharmacy and Science, at a special pre-Christmas student assembly on December 16, awarded 15 undergraduate and graduate scholarships on the basis of the previous year's accomplishments.



Lt. A. Francina Stonesifer, U.S. Navy, addresses Cosmetic Career Women at a recent luncheon. Seated on the dais, left to right, are: Kay Colton of Morningstar-Nicol, Inc.; Clarice Mills Garland of Colgate-Palmolive Co.; Lt. Stonesifer; Peg Burrow of Oxzyn Co.; Kay Fitzpatrick, T.G.A.; Annabelle Farrell of Emery Industries; Amy Blaisdell of Helena Rubinstein; Dr. Sophie Plechner of Carter Products. Also seated on dais and not shown in photograph: Fannie Goldstein of van Ameringen-Haebler, Inc.; Anna Figsbee of Avon Products.

Payan & Bertrand of Grasse Celebrates Its Centennial

Payan & Bertrand, Grasse, France, producers of aromatic raw materials, recently celebrated the 100th anniversary of its founding, A. K. Peters Co. of New York, their American representatives, announces.

The centennial was observed with a banquet at the Hotel Gray D'Albion at Cannes, which was attended by a majority of the company's agents and principal colleagues. Addresses were made by Director General Henri Proal, President of the Council of Administration, and sales manager Jean Faverjon.

The organization, established in 1854 by Messrs. Payan and Bertrand, had a modest beginning. In the early stages it was not anticipated that the company would manufacture aromatic raw materials, but would be limited to preparing products and alcohol extracts for the perfume industry.

After a considerable period of collaboration the associates Payan and Bertrand separated, the former having

opened a business devoted solely to the preparation of finished products, the latter concentrating on the development of a factory devoted to the manufacture of aromatic raw materials for the perfume and soap industries.

Even before World War I the concern had acquired an up-to-date factory, complete with hydro-carbon and vacuum distillation plants, for the processing of flower products and essential oils on a custom basis. However, the company had no sales organization and the name Payan & Bertrand, without any direct buyer-contacts, was not familiar to any market.

An extensive re-modernizing program was undertaken when the business was taken over by the present company in 1923, and sales manager Jean Faverjon began actively extending the firm's sales activities throughout the world markets. Today the concern has acquired a far-flung network of agencies, and has won an imposing place in international markets.

In addition to the products usually manufactured on the premises at

Grasse the firm Payan & Bertrand has specialized in the treatment of French Oak Moss, Lichens, Labdanum, and also in the treatment of fragrant resins. The structure of the Payan & Bertrand company makes it very well placed with respect to Essential Oils of lavender and lavandin as well as for the products obtained from these plants by hydro-carbons: Concretes, Absolutes, Colorless Absolutes, Resinoids, etc.

Nancy Breck "Miss Symphony 1954" at Charity Ball

Miss Nancy Breck, representing John H. Breck, Inc., was named "Miss Symphony 1954" at the annual charity ball held recently for the benefit of the Springfield, Mass., Symphony Orchestra Assn. She is the daughter of Edward J. Breck, president of the company, and is a Junior at Manhattanville College, Purchase, N. Y.

The affair was sponsored by John H. Breck, Inc. and eight other leading manufacturing and retailing establishments in Western Massachusetts.

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Essential Oil Assn. Holds Annual Banquet and Meeting

The Essential Oil Assn. of the U.S.A. held its annual banquet and meeting on January 7 at the Savoy Plaza Hotel in New York. The meeting featured a business session, followed by cocktails and an informal dinner plus entertainment.

The organization's Scientific Committee held its annual meeting the same day at the Gramercy Park Hotel; a number of papers were presented. Those on essential oils included "Oil Celery Seed," by Dr. G. Hedstrom, Magnus, Mabee & Reynard, Inc.; "Oil Cedar Leaf," by Dr. A. Warren, Dodge & Olcott, Inc.; "Oil Cinnamon Bark, Ceylon," by Dr. R. LeB. Daggett, George Lueders Co.; "Oil Limes Distilled," by Dr. E. Langenau, Fritzsche Brothers, Inc.; "Oil Ylang Ylang, Extra," by Dr. Ralph Lewers, Fritzsche Brothers, Inc.

Papers dealing with aromatic chemicals were "Aldehyde C 11" by Dr. K. T. Keller, Schimmel & Co., Inc.; "Aldehyde C 14," by Dr. E. C. Farns, Van Ameringen-Haebler, Inc.; "Benzophenone" by Dr. Thomas J. Bonica, Polak & Schwarz, Inc.; "B. Methyl Napthyl Ketone," by Dr. V. Johnston, Givaudan-Delawanna, Inc.; "Nerolin," by Dr. L. Hediger, Trubek Labs., Inc.

Dr. E. C. Farns, of van Ameringen-Haebler, Inc., also discussed the proposed standard format.

Chairman of the Scientific Committee is Dr. A. Fiore of Givaudan-Delawanna, Inc.

Lehn and Fink Veterans Honored at Dinner

Thirty-six retired employees of Lehn and Fink Products Corp.'s Bloomfield, N. J., plant were feted recently at a colorful get-together for a Veterans Day Recognition plant tour and luncheon. Edward Plaut, president of the company, a veteran himself, spoke to his old friends at the luncheon in the employees' dining room. Each guest received a package of company products as gifts.

Besides President Plaut, other honored guests included William H. Gesell, member of the Board of Directors; Walter N. Plaut, Vice-President; A.R.M. Boyle, Secretary-Treasurer; and Edmund J. Dempsey, General Manager of Manufacturing.

A special honor was bestowed upon Arthur Bontempo, not only as a retired employee, but also for his work as a stone-carving craftsman on Sacred Heart Cathedral in Newark, N. J., which was consecrated the same day.

Leeben Chemical Co. Issues New Color Price List

The Leeben Chemical Co. Inc. and its division the Interstate Color Co. have issued a complete new set of price lists on colors. These cover the entire range of FD&C primary, FD&C secondary mixtures, D&C primary and D&C secondary mixtures, both oil and water soluble. The lists will be sent on request.

Five Factor National Sales Managers Join for Vacation

Five of Max Factor's six national sales managers, Lee Rosene, Ben Gilmore, Michael Steiger, Al Rubin, and Fred Hansen spent a two-weeks' vacation in the film capital during the month of December as the guests of Max Factor Hollywood.

Accompanied by their wives, the five Factor sales executives, and Jack Weiss, Chicago Office Manager, all of whom make their headquarters at the Chicago offices of Sales Builders, Inc., were brought to the coast by Maurice R. Chez, president of Sales Builders, who, with Davis Factor, board chairman, and Max Factor, Jr., president of the Hollywood make-up firm, personally entertained the group.



Above, at the recent annual sales meeting of Ungerer & Co., Inc. are left to right: W. A. Bush, secretary; G. R. MacDonald; N. E. Gallagher; F. R. Schumm; J. R. Martin; Dr. Althausen; F. M. Miller; W. E. Kell; F. H. Ungerer, chairman; E. C. Dohrmann; A. G. Young; K. G. Voorhees, president; I. H. Budd, vice-president; Henry Budd; S. Goodwillie, general sales manager; W. H. Dunney, vice-president; Ira Bennett; J. L. Stais.



Five of Max Factor's six national sales managers, accompanied by their wives, joined other Factor and Sales Builders executives for a Hollywood vacation. Pictured, left to right, are Al Rubin; Jack Weiss, office manager of Sales Builders' Chicago office; Michael Steiger, Max Factor, Jr., president of Max Factor & Co.; Davis Factor, board chairman; Maurice R. Chez, Sales Builders president; Lee Rosene, Ben Gilmore, and Fred Hansen.

Klinker Mfg. Co. Launches Sales, Promotion Expansion

The Klinker Mfg. Co., Inc. of Cleveland, O., manufacturers of cosmetics for over 48 years, announces a new



Frank H. Fox

enlarged sales and production program now under way.

Frank H. Fox has been named vice-president and secretary of the company, and will head the expansion program; Leon G. Weil, president, has announced. New products for the cosmetic industry have been added to the Klinker items.

Max Factor's Sales Meeting Scores Record Attendance

Max Factor & Co. held its annual sales meeting December 4-5 in Chicago, with 110 of the firm's sales representatives, officers, directors and other executives in attendance. Highlight of the meeting was a preview of the company's advertising, sales promotion and merchandising aids for 1955.

Presiding over the meeting was Maurice R. Chez, president of Sales Builders, Inc., who asserted that it was the largest gathering of sales, advertising and executive personnel ever to attend a Max Factor sales meeting. Assisting him at the affair were his six sales managers: Lee Rosene, Ben

Gilmore, Joseph Gabriel, Michael Steiger, Al Rubin and Fred Hansen.

Davis Factor, board chairman of Max Factor & Co., and Max Firestein, executive vice-president, were both at the meeting. Other executives who attended from Sales Builders were Kenneth D. Caldwell, vice president and advertising director, Robert Schafhausen, assistant to Caldwell, Judge Smith, production manager, Dolly Reed, promotion and fashion coordinator, Bruce Culbertson, of the sales department, and Charles Brown, market analyst.

ADACIOM Installs Officers, Executive Committee for '55

The Associated Drug and Chemical Industries of Missouri, at its recent annual business meeting, elected the following officers and members of the Executive Committee for 1955:

President, Gerald F. Pauley, Monsanto Chemical Co.; 1st Vice-President, Joseph W. Wise, Grove Labs, Inc.; 2nd Vice-President, Alvin L. Sacks, The Puro Co., Inc.; 3rd Vice-President, E. Ted Mann, The Dow Chemical Co.; Secretary, S. C. Gansner, Cole Chemical Co.; and Treasurer, J. Louis Lanz, Consultant and Manufacturers Agent.

The new Executive Committee consists of I. W. Kurtz, The Blue Line Chemical Co.; James E. Montgomery, U. S. Industrial Chemicals, Inc.; Leo G. Peck, Peck's Products Co.; Dr. George F. Reddish, Lambert Pharmaceutical Co.; G. Kenneth Robins, G. S. Robins & Co.; and K. L. Simpson, Missouri Solvents and Chemicals Co.

CIBA Employees Receive Christmas Bonus

The Board of Directors of CIBA Pharmaceutical Products, Inc., Summit, N.J., voted a Christmas Bonus to all of their employees for the ninth consecutive year as their reward for their part in the company's advancement.

Fragrance Foundation Forms "New Ideas" Committee

A Committee on New Ideas was formed at a recent meeting of the Board of Directors of The Fragrance Foundation, president H. Gregory Thomas announces. This new committee will work on special promotional projects to increase consumer interest in the why's and wherefore's of fragrance products.

J. I. Poses, chairman of the Committee on New Ideas, named the following men to serve with him on that committee: Edouard Courrand of Lanvin-Parfums; Pierre Harang of Houbigant Sales Corp.; Jack Mohr of Lenthalic, Inc.; Russel Rooks of Avon Products and Samuel Rubin of Faberge, Inc.

Mr. Thomas also announced plans for a "new look" for *Counter Points*, the Foundation's educational sales training bulletin. Beginning with the February, 1955 issue *Beauty Fashion Magazine* will publish *Counter Points* as a regular monthly feature in the form of an editorial page. It will be written by the Foundation's Executive Director, Mrs. Kay Jamesson. This monthly feature will replace the quarterly sales training bulletin formerly sent directly to department, specialty and drug store toilet goods buyers for distribution to their sales personnel.

Mary Chess Declares First Dividend

Mary Chess, Inc. declares its first dividend of 10 cents per share payable on January 25 to stockholders of record January 3. Joseph A. Danilek, president of the company, reports that 1954 was a record breaking year both in volume and profits.

Colgate Grant Backs Study of Dental Records Statistics

Colgate-Palmolive Co. has presented a grant to the School of Dentistry of

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SELECTED BOOKLIST

for Perfume, Cosmetic, Soap and Flavor Chemists

1. THE HANDBOOK OF SOLVENTS.

By Leopold Scheffan and Morris Jacobs. The most useful reference work on solvents available today. The properties, uses, action and technology of solvents are covered in this comprehensive handbook. Two major sections: 1. Covers theoretical aspects and practical attributes of solvents such as solvent action, solvent power, evaporation and evaporation rates and limits of inflammability. Discusses in detail solvent recovery, stresses safe practices; 2. The physical constants of over 2,700 liquid compounds are tabulated. Arrangement such that you can compare, at a glance, the so-called literature constants with the commercial constants of each solvent. 728 pp., 7 x 10, 17 illus. \$10.25 postpaid.

2. SOAPS AND DETERGENTS.

By E. G. Thomssen, Ph.D. and J. W. McCutcheon, M.A., D.C.I.C. A volume for the practical soap maker. Synthetic detergents thoroughly discussed. Tabulates 250 surface active agents, their classification, trade names, manufacturers and application in the soap industry. Covers continuous soap making processes, soap perfuming and coloring, equipment, processes and methods. Up-to-date, authoritative. 511 pp., 66 illus. \$9.25 postpaid.

3. THE FUNDAMENTALS OF DETERGENCY.

By William W. Niven, Jr., Research Chemist & Consultant, Midwest Research Institute. A thorough-going treatment of the theory and practical applications of detergency. Discusses: 1. The effects of composition, concentration, temperature and added electrolytes on the nature and properties of aqueous detergent solutions; 2. The fundamental actions which constitute detergency and the role of detergents in aiding these actions; 3. The means of utilizing the various fundamental detergent actions in laundering (a typical application). 260 pp., illustrated. \$6.75 postpaid.

4. MANUAL FOR THE ESSENCE INDUSTRY.

By Erich Walter. Comprises modern methods with formulas for making all kinds of essences for liquors and alcoholic drinks, fruit juices and jams, mineral waters, essences of fruits and other vegetable raw materials, essences for confectionery and pastry. Describes raw materials and laboratory practice. Discusses taste and the transfer of flavor to foods and beverages. A standard work for many years. Contains 427 pages, 37 illustrations. \$8.25 postpaid.

5. PERFUMERY SYNTHETICS AND ISOLATES.

By Paul Z. Bedoukian, Ph.D. This carefully compiled volume supplies a genuinely felt want for authoritative data on perfumery synthetics. The work contains the history, chemistry, physical and chemical properties, manufacture, uses, and other pertinent data of the principal perfumery compounds; and covers the important perfumery synthetics. A complete index adds to the value of this useful book. 488 pages, \$8.75 postpaid.

6. FORMULARY OF PERFUMERY.

By R. M. Gattefosse. Translated from the French. Contains typical examples of tested formulations and methods of preparation of perfumes and cosmetics. Part I covers synthetic perfumes and 100% compositions. A table of floral families is included with numerous empirical formulas. Part II covers alcoholic perfumes, toilet waters, extracts and various types of perfumes concluding with a formulary of cosmetology with adequate discussion of and formulas for beauty creams, various cosmetic specialties, rouges, lotions, dentifrices, hair products and nail preparations. 252 pages, 6x9 in., cloth covers. \$4.25 postpaid.

7. HANDBOOK OF COSMETIC MATERIALS.

Their Properties, Uses, and Toxic and Dermatologic Actions. By Leon Greenburg & David Lester. With a chapter on The Skin by Howard W. Haggard. Contains alphabetical listing, with frequent cross references, of information on approximately 1,000 substances. For each compound gives: Formula (including collateral names); Properties; Uses, Toxic Action; Dermatologic action. Exhaustive bibliography. Essential for Manufacturing Chemists, Cosmetic Industry, Chemical Specialties Industry, Dermatologists, Allergists, Industrial Hygienists. Published 1954. 467 pp. \$12.75 postpaid.

8. MODERN COSMETICOLOGY.

By Ralph G. Harry. Partial contents: Emulsions, Cleansing Creams, Milks and Lotions, Acid Creams, Face Packs and Masks, Mud Creams, Vanishing Creams, Powder Creams, Lubricating Creams, Astringents and Skin Tonics. Lipstick, Make-up, Face Powders. Sunburn and Suntan Preparations. Deodorants. Depilatories. Antioxidants. Bath Preparations. Bath Oils and Emulsions. Foam Baths, Hand Creams and Lotions, Dental Preparations. Mouthwashes. Shaving Preparations. Hair Tonics and Lotions. Hair Creams and Fixatives. Permanent Waving Solutions. Hair Setting Lotions and Hair Lacquers. Hair Shampoos and Soapless Detergents. Manicure Preparations. Eye Lotions. Baby Preparations. Foot Preparations. Insect-Bite Preparations. Humectants. Acne Preparations. Coloring of Cosmetic and Toilet Preparations. 514 pp. \$12.25 postpaid.

9. THE ESSENTIAL OILS.

By Ernest Guenther, Ph.D. This monumental six-volume work is comprehensive, authentic. VOL. I. covers: Origin and Development of Essential Oil Industry, Chemistry and Function of Essential Oils in Plant Life, Products of Essential Oils. 448 pp., \$7.75 postpaid . . . VOL. II gives detailed data on several hundred of the more important constituents of essential oils. 852 pp. \$12.25 postpaid . . . VOL. III describes the oils of plant families Rutaceae (with special emphasis on citrus oils) and Labiate. 777 pp., \$12.25 postpaid . . . VOL. IV covers the individual oils in six plant families not covered in Vol. III. 752 pp., \$12.25 postpaid . . . VOL. V is of special importance to the flavor chemist. 507 pp., \$12.25 postpaid . . . VOL. VI, the final volume, is of interest to the pharmaceutical, flavor, and perfume industries. Features wintergreen, sweet birch, valerian, mustard, onion, hops, etc. Also deals with pine oils and turpentine. Includes table showing the taxonomic classification of all the essential oils described in all six volumes. 481 pp., \$12.25 postpaid.

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the University of Pittsburgh to support a study of a new statistical method of processing dental records. The results of a survey of over 4,000 Samoan children made recently by others will be used as a basis.

Scovill Mfg. Co. Scores Century of Dividends

A century of consecutive dividends has been established by the Scovill Mfg. Co. with its current 50 cent dividend on its common stock. It is the only industrial company listed on the New York Stock Exchange with such a score, and only four others of any type companies listed have longer dividend records.

Bymart-Tintair Ends Year in Black

Martin L. Straus II, Chairman of the Board of Directors of Bymart-Tintair, Inc., announced that the estimated net income of the company in the last five months of its fiscal year ended November 30, 1954, had been sufficient to overcome the losses in the first seven months.

Unilever Cuts Prices in British Soap War

Unilever, the Anglo-Dutch combine, has announced the first price cuts in Britain's soap war. The concern and its competitor, Thos. Hedley & Co., a Procter & Gamble subsidiary, have battled each other in the past with extensive advertising and coupon promotions.

Research Reported on Smell Measurement System

Research to find a scientific system for measuring smell is reported as being undertaken by consultant R. W. Moncrieff in Givan, Scotland. Results of the work, said to be supported by American deodorant interests, would be valuable in domestic, commercial, industrial and medical practice.

Present definition of smells depends largely on comparison of any new odour with an existing natural odour. The possibility of defining smells accurately by a system of numbers of curves would have value in allowing chemists and scientists to undertake theoretical work at present impossible.

The method employed to date has been to pass odours through a selected adsorbent in such a way that it is possible to calculate the time necessary for deodorisation. These experiments have given results which show that times are characteristic for given smells and given adsorbents. Adsorbents used have been silica gel, charcoal, Fullers earth

and alumina and experience has shown that any one smell has a characteristic adsorption time on various adsorbents.

It is thought from the initial work that the quality of the smell determines the adsorption time and that it is the shape of the odorous molecules that is important. The work will be continued.

Among Our Friends

C. G. GRACE has been appointed president of Colgate-Palmolive Ltd., Toronto, Canada. He joined Colgate in 1929, and has been executive vice-president and general manager, as well as a member of the board of directors of the Canadian company since March,



C. G. Grace

1954. The appointment coincides with the retirement of C. R. VINT, chief executive officer, who has been associated with the company for 51 years; he will remain as a director. The retiring president began his Colgate career as an office boy in Milwaukee. He was chosen to establish the Canadian company in 1913 and has headed the organization ever since. Under him the company developed from one staffed by 15 men, operating two soap kettles and making only one product, Palmolive Soap, to an organization employing 1,000 persons, operating from a modern, newly-opened factory, and producing 30 products.

BEVERLY STIANSEN, vice-president in charge of sales for Mary Chess, Inc., is taking a ten-week administrative management course at New York University, Office of Special Services to Business and Industry, which is co-sponsored by the Small Business Administration of Washington, D.C. She is the only woman in the class, and the only member active in the cosmetic industry.

JOHN A. CAWLEY has been elected president, chief executive officer, and a member of the board of



John A. Cawley

directors of The George W. Luft Co., Inc. He has resigned as vice-president of Miles Labs., Inc. to accept the post. MRS. CONSTANCE LUFT HUHN, formerly president of the Luft Co., will become chairman of the board. HARRY A. HAUS has resigned as vice-president, and may serve as consultant to the company.

CHARLES ZANDITON has been named vice-president and general sales manager of Produits Nina, Inc., coincident with the firm's current program for increasing distribution. The most recent position of Mr. Zanditon, who has been active in the cosmetic and drug industry for more than 20 years, was as president of Pepsinic Seltzer Corp.

BENJAMIN H. LEE and CHARLES B. STRAIN have been appointed to the home office staff of Colgate-Palm-



C. B. Strain; B. H. Lee

olive Co., toilet goods division, as assistant merchandising managers. Mr. Lee was formerly vice-president and general sales manager of the A. C. McElvay Co.; Mr. Strain was formerly associated with Lambert Co. in a sales and promotional capacity.

MISS LEE RUSSELL, publicity director of Shulton, Inc., has resigned to join the Sri Aurobindo International University in India.

JACQUES d'AIGREMONT, executive vice-president of Roure-Dupont, Inc., returned to the U.S. in time to officiate at the company's Christmas party, after a flying trip to South and Central America on a visit to various clients in those areas.

THOMAS M. O'NEIL has been elected a director and vice-president in charge of marketing of Nuodex Products Co., Inc., wholly owned subsidiary of Heyden Chemical Corp.

CHARLES H. BURGER, Jr. has been appointed sales promotion manager of Lentheric.



Charles H. Burger, Jr.

HUBERT RICHTER, who helped found the collapsible tube industry in this country, has been elected president of White Metal Manufacturing Co., of Hoboken, N. J. He had been vice president and treasurer. Stanley M. Rumbough, Sr., formerly president, was elected chairman of the board. Mr. Richter has been identified with the manufacturing of collapsible tubes in America since 1913. His father, Gustav Richter, founded the first collapsible tube factory in Germany in 1879. Mr. Richter is also a member of the board of directors of this firm—Metallindustrie Richter, Karlsruhe-Rheinhafen, Germany—and helped to celebrate its 75th anniversary this summer. Mr. Richter is considered one of the world's authorities on power press extrusion and is credited with introducing many of the processes used in this country.

WILLIAM A. HOFFMAN of William A. Hoffman, Inc., is back at work following two operations for fracture of his elbow. He suffered the fracture last Fall, while on a European business trip to visit various manufacturers and producers of essential oils, fruit juice concentrates and flavors, just when he was about to leave for Switzerland. Subsequently he had to cancel the remainder of his tour.

HENRY P. VAN AMERINGEN has joined the firm of van Ameringen-Haebler, Inc., manufacturers of flavor



Henry P. van Ameringen

and perfume materials. Mr. van Ameringen is the son of the president of the company. After graduating from Georgetown University in 1952 with a B.S. degree in Foreign Trade, he served with van Ameringen-Haebler, S.A.R.L., the French subsidiary of the New York company. Henry van Ameringen has also worked in the factories and laboratories of the company both in the United States and in France during several summer vacations. He will now give particular attention to creative work in fragrances.

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YOSHI IKEDA has been appointed sole agent for Ph. Chaleyer, Inc. in Japan. Mr. Ikeda is one of the most



Yoshi Ikeda

popular figures in the Japanese perfume industry, having been engaged in essential oils and aromatics for over forty years. He was formerly Sales Manager of the Aromatic Division of W. C. Strachan & Co. Ltd., Yokohama, and in 1933 under the name of Ikeda Gomei Kaisha set up a firm specializing in the import of aromatic raw materials.

DR. ERIC J. HEWITT, vice-president of Evans Research and Development Corp., New York, has received a three-year appointment from the Na-

tional Academy of Sciences—National Research Council, Advisory Board on Quartermaster Research and Development to the Sub-committee on General Products.

DR. ROLF BERNEGGER has been named manager of the Geigy Chemical Corp. plant at Cranston, R.I.

K. F. KETZELL has been appointed district sales manager for the Memphis, Tenn., by the Hazel-Atlas Glass Co. The company has opened a new office in the Sterich Building in that city.

BIRGIT SCHULTZ-NIELSEN from Copenhagen, Denmark, formerly with the Danish Information Bureau, has joined the Dorothy Gray cosmetic division of Lehn and Fink Products Corp.

NORMAN LEWIS has been named treasurer and controller at Bymart-Tintair, Inc. He was formerly assistant controller of American Home Products Corp.

BETH HARBER LAVINE has resigned as health and beauty editor of *Seventeen Magazine* to open her own office in New York as editorial and merchandise consultant and copywriter to the cosmetic and fragrance industry.

LUCAS B. COCHRAN has been appointed by the Hazel-Atlas Glass Co. as district sales manager with offices in New Orleans. He succeeds M. A. CARSO, who is retiring. JOHN W. HOMBURG has been transferred from the company's St. Louis district sales office to its General Office in Wheeling, W. Va., where he will be assistant manager of the closure sales department. JOHN M. DUNCAN has been appointed assistant district sales manager at the New York City sales office.

MRS. DOROTHY E. LAUGIERI, formerly of The Fleischmann Labs., has joined the staff of the Evans Research and Development Corp., New York, where she will assist in directing the activities of the expert sensory panel on problems of odor and taste.

ROLAND E. KELLER has been promoted from district sales manager at the Hazel Atlas Glass Co.'s Detroit sales office to regional sales manager for the South and Southwest. His former position has been taken over by CHARLES D. BUSBEY.

JULE GORDON, previously assistant to the president at J. B. Williams, has been named general sales manager for Charles Antell.

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Market Report

Trading Sluggish

FOllowing a persistent upward trend for many months, essential oils, aromatic chemicals and several related articles turned easier over the closing weeks of last year. The real market test will be whether, in the weeks ahead, sufficient buying will develop to check the downward trend or to offset possibilities of greater selling pressure on the part of outside holders.

Basically there has been little change in replacement costs or conditions at primary sources of supply to affect prices here. It is not yet clear, however, what percentage of the activity noted during the period of advancing prices was for consumption or for the account of speculative interests.

Seasonal Slack

The usual seasonal slackening in activity over the past month eased prices, and more pronounced declines could be noted in the future if outside selling pressure should develop.

Citrus Oils Competitive

There were a few exceptions where prices remained firm but the mint oils lost ground, and some of the citrus oils were more competitive, especially lemon and orange. Some low prices on Californian lemon oil widened the spread between the Exchange brand and independent brands. The softer tone in lime oil proved surprising to some in the trade, especially in view of the prices quoted on replacement oil from the West Indies and Mexico. Some trade factors assert that January and February sales will cut sufficiently into spot supplies to bring about a greater degree of strength in the market. Supplies of new crop lime oil from Mexico or the West Indies are still remote. The competitive situation in orange oil brought about further price shading in some quarters. The weakness in the market can be traced to the availability of peels as the result

of the widespread uses of fresh fruit juices.

Replacement Orders Expected

Reports current concerning the outlook for business in essential oils, aromatic and closely related articles covering the first quarters were mixed. The early weeks of the new year are expected to bring about some fair-sized orders to replace depleted stocks.

Prices of some articles are generally regarded as high and there may be a tendency on the part of buyers to meet only immediate requirements until a clearer picture forms of conditions abroad.

Shipping prices for lemongrass have fluctuated quite rapidly. The article, already high in price, could suffer a setback if outside holders should decide to take a profit with the new year at hand. The trade is still awaiting offerings of synthetic citral on a commercial scale. Consumption of lemongrass oil is expected to be materially reduced in this country once large scale production of synthetic material gets underway. Fluctuations in costs, crop failures, turn of international events, and various other factors have created the desire to get away if possible from dependence upon natural sources of supply.

The camphoraceous oils remain in a generally tight supply position. However, some strength has been lost by the group through seasonal slackening in demand. With the demand for natural camphor crystals at very low levels, the possibility of any easing in the supply of oil camphor is regarded as poor.

Prices on Formosan and Ceylon citronella oils have already eased due to easing demands. Unless demands improve in the weeks ahead there is a good possibility of prices showing a further downward trend.

Late reports coming out of Brazil indicated a possible break in sassafras

or ocotea cymbarum prices in the months ahead. The high prices prevailing on this oil over the past several months or more are expected to be reflected in an increased production. The prices have tended to encourage some new interests to come into the field and are also serving as an incentive for regular producers to boost production. Unless some unforeseen developments should take place a rather noticeable break in prices should be noted by April or early May. In some instances local sellers have not been able to dispose of their high cost holdings. Actual size of stocks here are not known but the possibility of greater selling pressure could have a softening effect upon prices.

Menthol Weak

Various factors are at work which tend to cloud the longer term outlook in menthol. Fall buying of this product proved highly disappointing. While shipping prices from Japan and Brazil have been firm there was a tendency to shade duty paid prices for spot goods, especially the natural product from Brazil. Some trial shipments of synthetic material have been made from Germany, and there were complaints about the market that sellers here were unable to compete in the export market because of the low prices of Chinese menthol in Europe and Canada. Direct imports from China are prohibited in the United States. Another bearish influence in the market were early crop reports out of Brazil indicating that 1955 production of menthol is expected to be larger than last year's output. Some estimates place new production at between 125 and 150 tons.

No spectacular developments were uncovered in glycerin. Prices on crude and refined were firm. The supply of natural glycerin continued to be restricted.

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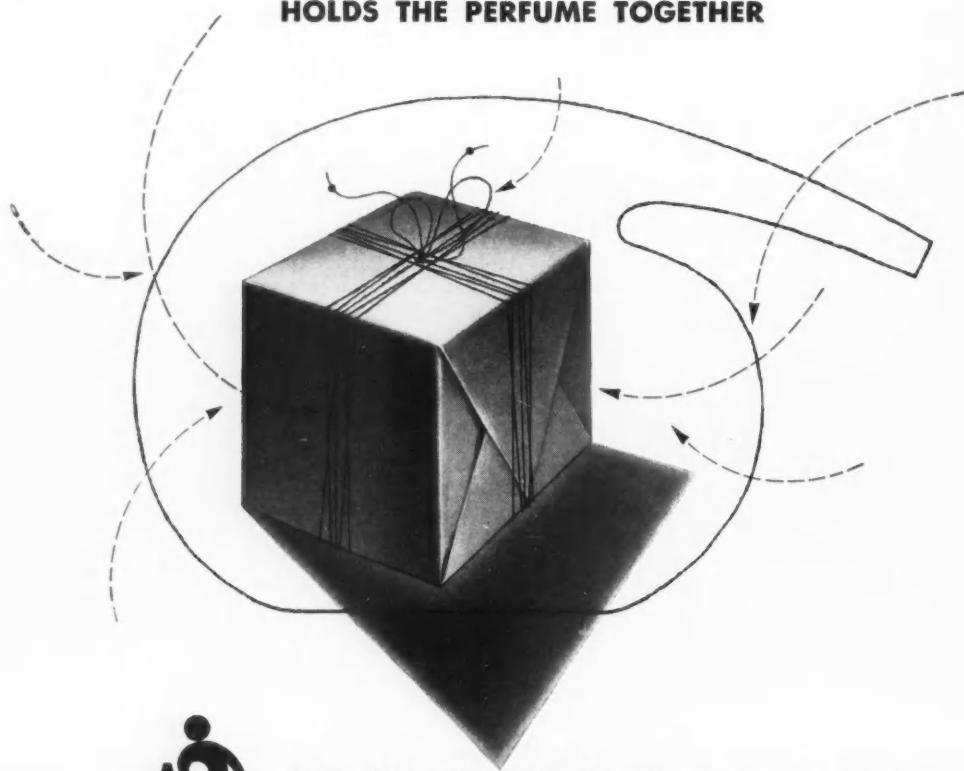
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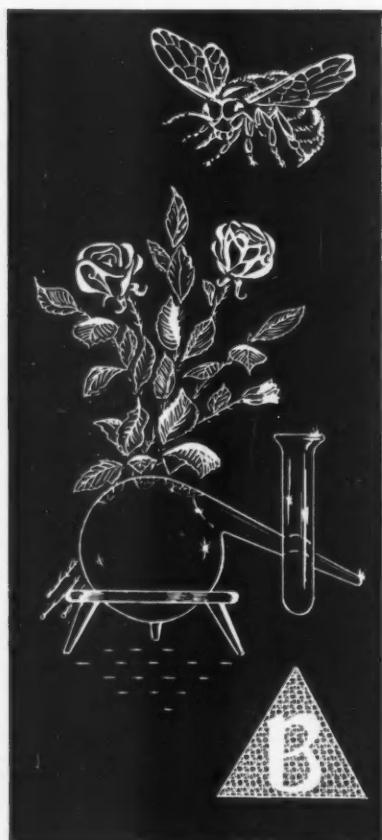
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Benzyl-isoeugenol	9.10@	10.25	Geranyl iso-valerate	9.00@	9.80	Neroline (ethyl ether)	2.50@	2.80
Benzyl Propionate	1.60@	2.10	Guaiac Wood Acetate	4.65@	5.00	Octyl Isobutyrate	3.50@	4.20
Benzyl Salicylate	1.80@	2.35	Heliotropin, dom	4.25@	4.80	Paracresyl Acetate	2.20@	2.75
Benzylidene Acetone	1.85@	2.50	Hydrotropic Aldehyde	5.90@	6.35	Paracresyl Methyl Ether	2.10@	2.75
Bromstyrol	5.70@	6.25	Hydroxycitronellal	6.00@	6.90	Paracresyl Phenylacetate	4.60@	5.20
Butyl Acetate, normal	.15@	.16	Indol, C. P.	17.25@	19.00	Phenylacetaldehyde 50%	2.75@	3.25
Butyl Butyrate	1.55@	1.80	Ionones—			100%	4.10@	4.65
Carvol	8.00@	8.50	Alpha	6.35@	7.00	Phenylacetic Acid	1.65@	2.25
Cinnamic Alcohol	2.75@	3.25	Beta	6.55@	8.25	Phenylethyl Acetate	1.60@	1.95
Cinnamic Aldehyde	1.30@	1.50	Iso-borneol	1.65@	1.80	Phenylethyl Alcohol	1.60@	1.80
Cinnamyl Acetate	3.65@	4.00	Iso-butyl Acetate	.55@	.95	Phenylethyl Butyrate	4.00@	4.50
Citral, C. P.	5.50@	6.25	Iso-butyl Benzoate	1.25@	1.80	Phenylethyl Propionate	3.40@	4.00
Citronellol	3.75@	4.35	Iso-butyl Salicylate	2.15@	3.00	Phenylethyl Salicylate	4.35@	4.80
Citronellyl Acetate	4.00@	4.30	Iso-eugenol	4.50@	4.90	Phenylethyl Valerianate	4.90@	5.25
Citronellyl Butyrate	6.95@	7.30	Iso-safrol	2.10@	2.80	Phenylpropyl Acetate	3.30@	3.75
Cuminic Aldehyde	3.25@	4.10	Linalool	7.10@	7.85	Phenylpropyl Alcohol	2.65@	3.30
Cyclonol	2.85@	3.15	Linalyl, Acetate 92%	6.30@	6.35	Safrol	1.55@	1.80
Diethylphthalate	.45@	.51	70%	6.00@	6.10	Scatol (oz.)	2.75@	3.25
Dimethyl Anthranilate	5.75@	6.00	98%	7.05@	7.40	Styrolyl Acetate	1.65@	2.25
Diphenyl Methane	1.15@	1.30				Thymol, crystals	2.50@	2.75
Diphenyl Oxide	.60@	.75						



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Vanillin, eugenol	6.50@	7.25	Citric Acid Anhydrous	283/4@	.31 1/4	Salicylic Acid U.S.P.48@	.53
(Guaiacol)	3.00@	3.25	Civet, ounce	9.00@	13.85	Saponin No. 1	2.75@	2.80
Lignin	3.00@	3.25	Cocoa butter .....	.90@	.95	Silicate, 40° drums, works, 100 pounds	1.70@	2.30
Vetiver Acetate	40.00@	45.00	Cyclohexanol (Hexalin)	34 1/2@	.35	Fuller's Earth Mines on	30.00	
Violet Ketone Alpha	7.90@	8.40	Glycerin, C. P.	29 1/2@	.30	Sodium Carb. 58% light, 100 pounds	2.75@	4.52
Yara Yara (Methyl ether)	2.40@	2.75	Soap Lye, crude .....	.21@	.22	Hydroxide, 76% solid, 100 pounds	4.80@	4.90
BEANS								
Vanilla beans—			Gum Arabic, white pwd. ....	.40@	.45	Spermaceti .....	.28 1/2@	.34
Bourbon	11.00@	11.50	Amber .....	.22@	.23	Styrax Asiatic .....	.90@	.98
Mexican, cut	10.75@	11.00	Gum Benzoin, Siam	3.75@	3.85			
Mexican, whole	11.00@	11.25	Sumatra .....	.38@	.42			
Tahati	10.25@	10 1/2 Nom'l	Gum Galbanum	1.25@	1.50	Tartaric Acid (250 lb. drums) .....	.41@	.42
Tonka Beans Surinam	1.05@	1.30	Gum Karaya, pwd. ....	.35@	.50	Tragacanth, No. 1	2.75@	3.20
Angostura	1.65@	1.80	Gum Myrrh .....	.35@	.38	Triethanolamine .....	.21 1/4@	.24 1/4
SUNDRIES AND DRUGS								
Acetone	09 1/2@	10 1/2	Henna, pwd. ....	.23@	.26	Zinc stearate, U.S.P. ....	.37@	.42
Ambergris, ounce	8.00@	16.50	Kaolin .....	.05@	.07	Oxide, U.S.P. ....	.16 3/4@	.17 1/4
Balsam, Copiba .....	.90@	1.00	Labdanum .....	.85@	1.50			
Canada fir, gal.	33.00@	35.00	Lanolin, cosmetic .....	.30@	.33			
Peru	1.55@	1.65	Anhydrous .....	.28@	.29			
Beeswax, bleached, pure U.S.P. ....	.72@	.77	Magnesium, carbonate	11 1/4@	.14	OILS AND FATS		
Yellow, refined .....	.60@	.65	Stearate .....	.38@	.43	Castor, refined, drums .....	.19 1/2@	.20
Bismuth, subnitrate	2.65@		Musk, ounce	65.00@	Nom'l	Coconut, crude, Atlantic ports, tanks .....	.13@	.13 1/4
Borax, crystals, carlot ton	67.25@	91.75	Olibanum, tears .....	.26@	.28	Refined, drums .....	.20 3/4@	.21
Boric Acid pwd. U.S.P., ton	129.25@	153.75	Siftings .....	.16@	.18	Corn, crude, Midwest, mill, tanks .....	.13 1/8@	.13 5/8
Caffeine, anhydrous	3.35@	3.40	Orange Flower Water, gal.	1.75@	2.25	Corn Oil, refined tanks .....	.16 5/8@	.16 3/4
Calcium, Phosphate	07 3/4@	.08 1/4	Orris Root, Italian .....	.35@	.45	Cottonseed, crude tanks .....	.12 7/8@	.13
Phosphate, tri-basic	07 5/8@	.08	Paraffin, fully ref. 122-124 .....	.08 3/8@	.08 5/8	Lard, Chicago .....	.13 5/8@	Nom'l
Camphor, pwd., domestic .....	.59@	.61	Peroxide (hydrogen U.S.P.) bbls. ....	.03 3/4@	.05	Lard, Oil common, No. 1 drums .....	.13@	.13 1/2
Castoreum, nat., cans	5.25@	20.00	Petrolatum, snow white .....	.07 1/8@	.09 1/4	Olive, edible (gal.)	2.35@	.240
Cetyl, Alcohol, extra .....	.80@	1.15	Propylene glycol—U.S.P., drums .....	.16 3/4@	.17 3/4	Red Oil, single distilled drums .....	.16 3/4@	.18 1/2
Chalk, precip. bags, elts .....	.02 7/8@	.03	Quince Seed .....	.17 5/8@	2.00	Double distilled .....	.19 1/4@	.21
Cherry Laurel Water, jug, gal.	1.25@	Nom'l	Rice Starch .....	.15 1/2@	.16	Stearic Acid Triple Pressed .....	.16@	.17 3/4
			Rose Flower, pale .....	.65@	.90	Double Pressed .....	.13 3/4@	.15 1/2
			Rose Water, jug (gallon)	1.25@	1.85	Single Pressed13 1/4@	.15
			Rosin (gum), M. per cwt	9.20@	9.25	Tallow, oil, acidless, drums10 1/4@	.10 1/2



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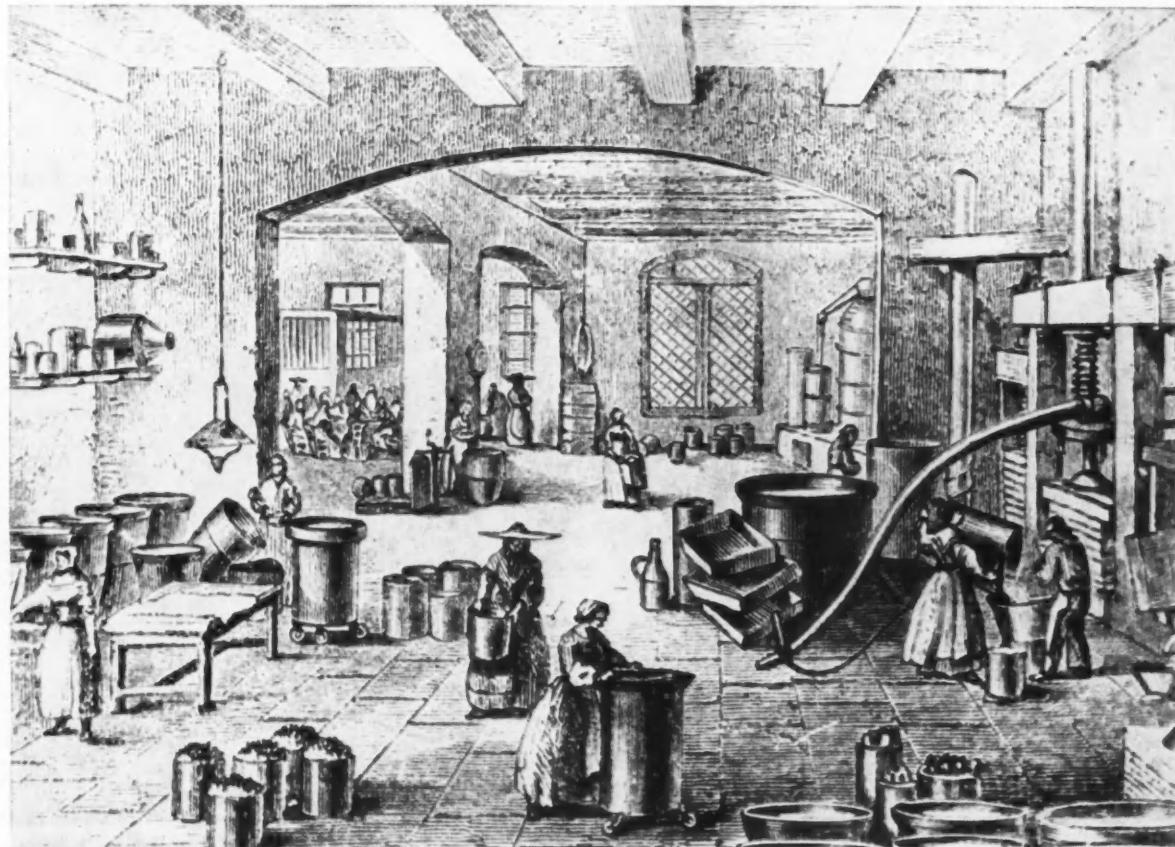


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Drawing of the interior of a perfumery at Nice in the 17th Century.

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